

THEOPHRASTUS AGAINST
THE PRESOCRATICS AND PLATO

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H. BALTUSSEN

THEOPHRASTUS AGAINST
THE PRESOCRATICS AND PLATO



THEOPHRASTUS AGAINST THE PRESOCRATICS AND PLATO

PERIPATETIC DIALECTIC IN THE *DE SENSIBUS*

BY

H. BALTUSSEN



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For Angélique, Sanne & Thomas

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I have made revisions in all chapters, some more radical than others. The most significant change is that the overall focus is entirely on *De sensibus* itself and no longer involves a detailed discussion of its relation to the *Placita* (previously Ch. 6). The ongoing research on Theophrastus and doxography may soon offer new insights. I shall therefore deal with this aspect summarily (Ch. 7).

I would like to thank a number of people who in some way or other — be it inspiring work, advice or encouragement — have helped me in pursuing this project: Bill Fortenbaugh, Bob Sharples, Pamela Huby, Douwe Runia, André Laks, Keimpe Algra, Teun Tieleman, Paul Keyser, Peter Lautner.

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The publication of a book is an event which finalizes a seemingly endless process of improving and rewriting. I thankfully dedicate it to my companion and wife Angélique who has been supportive and remarkably patient all the way, and to my children who in their own

inimitable way keep reminding me that there is much more to life than books and things ancient.

HB

London, July 1999

ABBREVIATIONS

The following abbreviations are used throughout this study:

Beare	John I. Beare, <i>Greek Theories of Elementary Cognition from Alcmeon to Aristotle</i> , Oxford, 1906; Repr. Dubuque [1965?] and 1993.
DG	Hermann Diels, <i>Doxographi Graeci</i> , Reimer, Berolini 1879.
DK	H. Diels/W. Kranz, <i>Fragmente der Vorsokratiker</i> , 3 vols., Berlin 1989 ¹⁷ .
FHSG	W.W. Fortenbaugh, P. Huby, R.W. Sharples, and D. Gutas, <i>Theophrastus of Eresus. Sources for his Life, Writings, Thought and Influence</i> , Brill, Leiden 1992 (2 volumes).
KRS	G.S. Kirk- J.E. Raven-M. Schofield, <i>The Presocratic Philosophers</i> (sec. ed. 1983; first ed. 1957)
LSJ	H.G. Liddell, R. Scott, H. Stuart Jones, <i>A Greek-English Lexicon</i> , Oxford 1953 (= 1940 ⁹).
RE	<i>Paulys Real-Encyclopädie der Klassischen Altertumswissenschaft</i> , hrsg. G. Wissowa, Stuttgart 1894– 1980.
Regenbogen	O. Regenbogen, <i>RE</i> (1940) suppl. 7, s.v. ‘Theophrastus’, cols. 1354-1562. (<i>reference includes column and line numbers</i>)
RUSCH	<i>Rutgers University Studies in Classics and Humanities</i> , edited by W.W. Fortenbaugh <i>et al.</i>
Stratton	G.M. Stratton, <i>Theophrastus and the Greek Physiological Psychology before Aristotle</i> , London 1917; repr. Bonset-Schippers, Amsterdam 1964.

NOTICE TO THE READER

When quoting Greek texts, I have used, unless otherwise indicated, the modern standard editions. The most important are the Oxford Classical Texts (*OCT*) for Plato, Aristotle and Diogenes Laertius (D.L.), the Loeb editions for Plutarch, Sextus Empiricus and Theophrastus’ botanical works, and the Berlin edition of the *Commentaria in Aristotelem*

Graeca for the Greek commentators on Aristotle. For the *DS* I have used the text from *DG* with only a few minor alterations.

It should be noted that an earlier summary version of parts of this study (Ch. 2.1 and 5.2) was published in *RUSCH* V (1992), 1-19 and that an important aspect of Ch. 3.1.4 of the dissertational version was published in a much expanded version in *Apeiron* 31-2, 1998.

GENERAL INTRODUCTION

1. *Preface*

Our knowledge of ancient Greek philosophy depends on a long line of textual transmission, which started in the sophistic period of the fifth century BC and continued through the Middle Ages until the Renaissance, during which the bulk of texts stabilized into the corpus as we know it today. The information contained in these texts was treated differently according to the intellectual habits of each period. It is obvious that the treatment of the material may influence both the quantity and the quality of the information. This aspect of reception and incorporation of material into the fabric of another exposition has become a major concern to historians of early Greek philosophy over the past decades. The present study is a case-study which aims to contribute to this trend of understanding indirectly transmitted evidence for ancient thought.

In Plato's and Aristotle's time we can observe a growing interest, on a wider scale than before, in the views of their predecessors. One reason for this was no doubt the growing importance of writing. This made more material better available and in a more permanent form, which helped to broaden the philosophical landscape, sharpen the minds of those involved, and to speed up the development of philosophical concepts. There can be no doubt that in this early period of *Verschriftlichung* there existed an important interaction between the preservation and the development of philosophical thought.

The present investigation will focus on one very interesting example of a text preserving pre-Aristotelian thought, Theophrastus' *De sensibus*. It represents the first monograph on this text since L. Philippson's *Hylê Anthrôpinê* (1831). The importance of the text is generally acknowledged, because both in content and in form it is quite unique. But as will become clear in the following pages, it was especially (and in a way understandably) the content which received most attention of students of early Greek philosophy. The present study will, among other things, argue that it is worth our while to give some attention to its form.

The small treatise, or large fragment, entitled *De sensibus* (henceforth *DS*)¹, traditionally attributed to Theophrastus, colleague of Aristotle and second head of the Lyceum at Athens from 322 to 278 BC, contains invaluable information concerning the views on sense perception and thinking of the Presocratics,² as well as a summary of Plato's views on this subject. In addition to this, almost half of the work (as we have it today) contains the queries and criticisms formulated by Theophrastus against the reported views. Since we have few or no other sources on this subject for the Presocratics, the text has been used primarily as a quarry for recovering and reconstructing their thought. The immediate result of the reconstruction as first undertaken by Hermann Diels in his *Die Fragmente der Vorsokratiker* (1903 and later reprints) was that the work became severely fragmented. Passages selected as testimonia were included by Diels in his collection, while Theophrastus' criticisms were sometimes omitted. It is therefore fair to say that until recently the *DS* as a whole has remained virtually unstudied ever since the text was printed by Hermann Diels in the *Doxographi Graeci* (1879), the famous reconstruction of the doxographic traditions. At any rate, Stratton's commentary is insufficient.

Moreover, the interpretation of the *DS* proposed there has remained unchallenged from the moment of its publication: it was regarded as a fragment of the lost (so-called) *Physikôn doxai*, a large 'history of (pre-Aristotelian) philosophy'. Accordingly it became stigmatized as a fragment and a preliminary work of little value. This hypothesis is in part based on Theophrastus' use of 'cross-reference' among the views under discussion: thus he sometimes compares the view or approach of one philosopher to that of another.³ Such an approach is paralleled in some fragments from Simplicius, and in certain parallels in the later doxographical tradition which (directly or indirectly) seem to derive from Theophrastus' overview. Clearly such an interpretation emphasizes the relation of the *DS* with other texts.

¹ As to the title I prefer the plural *De sensibus* for two (practical) reasons: to distinguish the work from Aristotle's *De sensu* (*et sensibilibus*) and because the best MSS of the Theophrastean work (P=Parisinus 1921, s. XIV and F=Laurentianus LXXXVII 20) have the plural. Reference is made to the paragraphs, at times specified by page and line, in Diels's *Doxographi Graeci* (e.g. DG 525,12).

² I use this term for the early Greek thinkers in its traditional meaning – despite the objections which are possible against it – in order to avoid confusion on a minor issue.

³ See Ch. 1, n. 36.

For this reason Diels's important findings concerning the doxographical web of interrelations of later texts became disproportionately stressed. For instance, the relation between the *DS* and the relevant passages in the Aëtian *Placita* (esp. book IV chapters 8-23 on the senses) is more complicated than Diels was willing (or able) to admit, and his discussion of the comparison is anything but satisfactory. As we will see (Ch. 7, pp. 236 ff.), this part of his argument is in need of further corroboration.

Diels's approach to the *DS* is certainly understandable given the state of the evidence and the methods current at the time. The low interest the work attracted in the period that followed was no doubt caused by the dismemberment of the information on the Presocratics: at that point Theophrastus himself had almost disappeared. In this book it is argued that the *DS*, *once it is studied as a whole*, deserves a fuller treatment and a fresh examination, in particular for its formal features.⁴ Because the *DS* is a singular instance of report and critical evaluation — or as Regenbogen put it, of “Referat und Kritik”⁵ — the form and structure of the work should not be overlooked too easily.⁶ As we observed above, the reporting of pre-Aristotelian opinions (*doxai*) constitutes only half of the text: this means we find numerous critical evaluations pertaining to the flaws of the reported theories. As it turns out, these present their own specific problems, which are of interest for our knowledge of Theophrastus' method and the purpose of the text. For instance, the number of objections and their nature often leave us guessing at the purpose they serve: no clear structure or hierarchy

⁴ Note that, despite renewed interest in Theophrastus, the focus has been on the philological reconstruction (the fragments and *opuscula*). An argumentative analysis deals with philosophical aspects. The philological aspects will be dealt with before long. A new edition of the work is in preparation by A. Laks/G.W. Most.

⁵ Regenbogen, col. 1553.20 ff.: “die φυσικῶν δόξαι [of which *De sensibus* is thought to be a part] ... begründen auch eine Methode von Referat und Kritik, die das beste darstellte, was es in dieser Hinsicht im Altertum gab”. “Referat und Kritik” is by far the best characterization of the nature of the fragment (not so *ibid.* col. 1400 “Doxographie und Kritik”). On my objections to the use of “Doxografie” cf. Ch. 7.1.

⁶ Although it is only fair to acknowledge that Beare's work and Stratton's introduction and notes (esp. on Plato) are to some extent an exception. But Beare indiscriminately draws from different sources (e.g. Aëtius) to establish the nature of the views on perception. Stratton's ‘empirical’ approach prevented him from appealing to a wider perspective of Peripatetic methodology. Furthermore, his translations of certain technical terms pertaining to method and criticism are, I believe, inconsistent and therefore in need of correction.

presents itself and on occasion a sequence of criticisms appears to contain repetitions. Furthermore, the author has left us no (explicit) indications for what purpose this treatise was produced. But the internal evidence should also be taken into account, such as the order of exposition, the types of argument, and the question whether Theophrastus is always *parti pris* in the criticisms. Thus several different but related problems discussed in the present investigation all take their departure from within the *DS*.

2. *Reasons for a New Analysis*

The present investigation attempts to 'update' the study of the *DS* by linking up with recent trends in the field of historiography of Greek philosophy. I shall take my starting-point from the view that a renewed analysis is justified for three reasons. The first is neglect. As we said above, the important task of restoring Presocratic philosophy has led to studying individual passages out of context, and for a long time content took precedence over form. Remarks concerning the method applied in the *DS* are made in passing only. In short, Theophrastus' role as a reporter and critic in the *DS* still awaits clarification.

The second and third reason are new trends in research. The study of early Greek philosophy has already taken a different turn in more recent years. A more contextualist approach in the use and interpretation of fragments has been gaining ground. By taking the doctrinal context of quotations, paraphrases etc. into account the motives and underlying suppositions of the reporter are brought to the surface. They stimulate the reader to reconsider the value of a view reported in the light of these external factors. This method of analysis has proved to be a fruitful one in many cases, because it makes the reader more sensitive to the colouring (or lack of it) bestowed on the material.⁷ It is obvious that such a method may also be applied to the *DS*.

Attention for this methodological aspect may also profit from the fact that significant progress has been made concerning our understanding of Aristotle's treatment of his predecessors. In the last three decades a picture has emerged which has led scholars to label the so-

⁷ Such an approach can be found for example in T. Tieleman, *Galen and Chrysippus On the Soul. Argument and Refutation in the De Placit. II-III* (Brill, 1996), Osborne (1987), Mansfeld (1987), (1992), Runia (1989).

called ‘historical’ introductions to his treatises as ‘dialectical’ in the sense claimed in *Topics* A 2. There Aristotle mentions three reasons for the usefulness of dialectic: training, everyday debate, and philosophy (further specified as the search for principles). When we use the term ‘dialectical’ in this connection it does not stand merely for an approach that is ‘polemical’ or ‘critical’ (i.e. destructive), but also for one that is constructive and can be used to make a positive contribution to the philosopher’s investigations. It has become clear that the general guidelines of the *Topics* can enhance our understanding of the part such discussions played in Aristotle’s philosophical writings. Such an approach improves upon earlier analyses in which all too often anachronistic criteria led to anachronistic conclusions. In this respect the results of Aristotelian research are just as informative about the researchers as they are about Aristotle. Now that the picture of Aristotle’s method and approach is being modified to a considerable extent, our views on Theophrastus’ may need to change accordingly.

3. *Aims*

Having said this, we may briefly clarify the inquiry as to its method and aims, while stating our views on the scholarly context, the type of investigation, and the methodological guidelines which direct the method(s) used.

The aim of the present investigation can be described as an attempt to analyze the argumentative procedures of the *DS* from a Peripatetic point of view. The investigation will primarily be a formal one. By focusing on points of structure and method in the presentation and evaluation of the opinions discussed in it, we will try to clarify the methodology of Theophrastus as the reporter and critic of pre-Aristotelian philosophy. Consequently, specific problems of Presocratic or Platonic philosophy will only be studied in relation to Theophrastus and insofar as this is required for our understanding of the argumentative procedures.

It will be helpful to set out some of the subsidiary questions we will be attempting to answer. The most important thing in our judgment of Theophrastus is to make a distinction between his intentions and the success with which these have been fulfilled. On the basis of certain assumptions explained in chapter 2 the main question is no doubt

whether the method Theophrastus used in selecting, presenting and evaluating the material can be considered *dialectical* in the Aristotelian sense. Asking this question means we will try to establish whether Theophrastus' method of presenting and criticising the pre-Aristotelian views is inspired and informed by the strategies described by Aristotle in his *Topics* and applied in his 'historical' surveys. The inquiry is to be patterned after what the Germans call *Rezeptionsgeschichte*, that is, the method of taking (social-cultural-intellectual) contexts into account in the transmission of ideas. By analyzing the *argument* from within Peripatetic thought, a fresh understanding of the place of the text may come within reach. In short, this book is about dialectical moves and philosophical motives.

4. *Excursus: Type of Investigation*

Scholarly inquiry has the habit of being hypothetical in its starting-points and a tendency to be apodictic in its results. What happens in between is to a large extent due to the choices and preferences of the investigator. Since the process from the initial intuitions towards the final conclusions is influenced by many conscious and subconscious factors, whereas only the former tend to be mentioned (and therefore unduly emphasized), one might lose track of how well-founded the results of the investigations are. What I am about to say on this point may be very basic or even trivial, but I prefer to state the 'obvious' rather than leave the reader guessing.

In every investigation, and especially one of a historical, literary or philosophical nature, the approach is governed by certain general assumptions. Scholars are supposed to be aware of these. But it is clear that this is not always the case, let alone possible: one may have cultivated certain habits of which one is no longer aware. Or — and this is perhaps even more natural — it may prove just about impossible to get behind (or beyond) the preconceived notions of current thought and at the same time to comply with the demand that one should be aware of such notions.⁸ Interpretation becomes a difficult and delicate task, which must try to take these aspects into account.

⁸ On the problems of historical research see the illuminating remarks by Finley (1987: 71 ff.), who deals with concepts such as generalizations, hindsight, preconceived notions and underlying assumptions in the study of ancient history.

The problem was formulated in a lucid way by Charles Kahn in the introduction to his study of Heraclitus⁹:

beyond the minimum conditions of philological accuracy, there is no higher tribunal to which one can appeal for a judgement between frameworks of interpretation. The hermeneutical circle is constituted by the fact that it is only within the presuppositions of a meaningful framework that we can make sense of a given text; and it is only by its applicability to the text in question that we can justify the choice of a particular framework. From this circle there is no escape. If we do not deliberately construct or select our own interpretative framework, we become unconscious and hence uncritical prisoners of whatever hermeneutical assumptions happen to be 'in the air'.

To reduce the risk of being at the mercy of our underlying assumptions, it is important to be as unequivocal and straightforward about methods and procedures as we possibly (i.e. consciously) can.

Our working method is that of reconstructing aims and motives within an historical context in accordance with the field which is currently referred to as the historiography of philosophy. Since we are dealing with ancient texts, the reconstruction often starts with a philological approach.¹⁰ This entails for instance terminological analysis and the use of parallels. This point is particularly important, because in our case we will often have to use terminological and doctrinal parallels from Aristotle to clarify or explain the phraseology and positions of Theophrastus. This approach serves to fill in actual gaps or to corroborate the (sometimes incomplete) evidence concerning Theophrastus.¹¹

Another point needs to be mentioned. If there is in this study a certain imbalance in the way in which reference to the secondary literature is made, this has two reasons. As will become clear in chapter one, our subject has been touched upon in various periods and in various ways, but was never studied extensively. Moreover, Aristotelian research is one of the largest in the field, and anyone joining this ongoing discussion is forced to try and take this literature into account.

⁹ Ch. Kahn, *The Art and Thought of Heraclitus* (Cambridge/ Cambridge U.P., 1979, repr. 1983) 88.

¹⁰ Thus the approach in each chapter varies in its emphasis on the historical, philosophical or philological aspect (or a combination of these).

¹¹ But I intend to avoid 'parallelomania', an approach common in philological commentaries which seems to replace further explanation. [I borrow the term 'parallelomania' from Mansfeld (1990) 3065 who has some useful remarks on this issue in doxographic contexts.]

Therefore the discussion in chapter two on Aristotelian dialectic contains a considerable number of references to secondary literature, mainly in order to make clear that this subject has a long history and to ensure that the view of dialectic developed here is well founded.

There is also a methodological point to be appreciated. One reason for inquiring into the role of the discussions of *doxai* in the work of the Peripatetics is to explain why their treatment of their predecessors is different from the kind of writing about the history of philosophy aimed at by modern scholars. There is much debate today about the way in which the study of the history of philosophy should be conducted. I will advocate a wider perspective on the history of philosophy than is often used.¹² For this reason I have digressed on less obvious aspects, such as the implicit effect of dialectic (2.1) and the influence of writing on the transmission of texts (4.2).

A final point. I have been anxious to keep apart the areas of evidence and speculation and to indicate where the territory of the former ends and that of the latter begins. The main reason for this is that studies in classical scholarship are in general hampered by the fragmentary state of the evidence and that thorough analysis or persuasive speculation (or both) must compensate for this handicap.

5. *General Order of Exposition*

The argument set out in the chapters that follow is cumulative in the sense that the order of exposition is meant to be logically convenient and progressively persuasive.

In *chapter one* ("Theophrastus' *De sensibus*") I will clarify the subject of this study by discussing in some detail the importance of and the need for an analysis of the Peripatetic elements in the *DS*.

In *chapter two* ("Peripatetic Method: Dialectic and Doxography") I will describe the new picture which has emerged of Aristotle's dialectical method, starting with E. Weil (1951) and Jeanne Croissant (1951), who (independently) did much of the groundwork for

¹² As for instance proposed by Rorty (1984). The different and distinct tasks of rational and historical reconstruction, and of *Geistesgeschichte* combined into a new discipline (which Rorty calls "intellectual history") may very well include studies of 'minor figures' in politics, literature and history. Rorty does away with doxography (65, using the term in a modern sense), and prefers to combine the various traditional approaches which are of mutual benefit to each other.

rehabilitating the *Topics*. Weil himself regarded his contribution as a starting-point of a new phase in which scholars were to use the *Topics* from a fresh viewpoint, adding that “it would be interesting to study again the aporetic procedures so characteristic of Aristotle’s great treatises and also — a more important and more difficult task — the relations between topics and ontology”.¹³ This call has been followed up recently, but in Theophrastean research such efforts are so far absent.

In *chapter three* (“Theories of Perception: Positions and Arguments”) I will argue that Aristotle’s treatment left ample space for further work on the existing views of perception. A preliminary section explains the position of Theophrastus in terms of his philosophical standards (3.1), after which we will try to clarify the similarities in methodology (3.2). The actual *analysis* of the argumentation in the *De sensibus* will be carried out in three separate stages, each of them highlighting an important aspect of the problem.

In *chapter four* a case-study provides new insights into the relationship between the *DS* and Plato’s *Timaeus*. Plato’s views on perception (4.1) as found in the *Timaeus* were summarized by Theophrastus and dealt with from a specific point of view. By paying attention to the reports (4.2) and criticisms (4.3) in detail we will get an idea of Theophrastus’ procedure. Some remarks on how his approach compares to Aristotle’s are also apposite.

In *chapter five* (“Theophrastus’ Criticism of the Presocratics”), the second stage of the analysis, we will study the criticisms in their original order while noting their hierarchy and function whenever possible. Here we will argue that the formal and doctrinal elements in the argumentation of the *DS* provide ample indications for its dialectical nature.

In *chapter six* (“Applied Dialectic in *DS*: In Search of Archai?”) a *typology of arguments* will be set up in order to classify the different forms of argument against the background of dialectical conventions (including those against Plato, 4.3) and to establish the extent to which

¹³ Weil (1975) 108 (= 1951: 314). As late as 1968 this had not yet been done on a large scale as the remarks by Solmsen illustrate: “That τόποι and, more generally speaking, dialectical operations figure in the arguments by which Aristotle supports his ‘principles’ is, I believe, true, but as far as I can see cases of the kind are exceptional rather than typical”. But he goes on to admit that “... the argumentative structure of the treatises has not yet been sufficiently investigated” (Solmsen, 1968: 54 n.4).

the argumentation can be regarded as dialectical *sensu Aristotelico*. Special attention will be given to the ‘most typical role of dialectic’ (*Top.* A 2), the search for *archai* and the question whether *DS* contains a discussion of ‘basic principles’.

In the *Epilogue* (Ch. 7) some after-thoughts will be given on the basis of the results formulated in chapter 6. One major question with regard to Theophrastus’ *De sensibus* deserves attention, although here we can only outline the main aspects involved. The status and/or purpose of the text seems to defy description.¹⁴ The question of its status has up until now been reduced to the dilemma of assigning the *DS* to a collection of *doxai* or regarding it as a preparatory systematic monograph for didactic and investigative purposes. Although in its previous life the current chapter dealt with these and related problems in some detail, here it will only provide a summary version of the pertinent questions involved, in the hope that further work and impending publications will facilitate a better founded account in the near future.¹⁵ I shall briefly look at the (still current) hypothesis of Usener and Diels and its problematic aspects, indicate where Diels neglected important evidence on the question how *DS* is related to Aëtius’ *Placita*, and will conclude by sketching the task ahead for clarifying the relationship of the *DS* to texts such as the collection of physical opinions (*Phys.op.*) and Theophrastus’ *Physics*, which included his *De anima*.

¹⁴ I have discussed the problem in Baltussen (1998) and suggested a probable solution.

¹⁵ I am thinking in particular of the next volumes on Aëtius by Mansfeld-Runia (*Aëtiana*, vols. 2-3, forthc.). See also ch. 7, pp. 236 ff. (with n.2 and n.12).

CHAPTER ONE

THEOPHRASTUS' *DE SENSIBUS*

Theophrastus' life (ca. 370/1-279 BC) and activities came after a culminating period in the development of Greek philosophy. This simple fact explains much of his historical position as a philosopher. We are told that he came to Athens from the town of Eressos on the island of Lesbos at the age of seventeen (\pm 363 BC) and attended some of Plato's lectures at the Academy.¹ Plato was an old man and presumably working on the cosmological theory expounded in the *Timaeus*. But Theophrastus soon became a pupil of Aristotle and worked closely with him as a colleague for almost forty years. On succeeding Aristotle he assumed the formidable task of continuing the latter's wide-ranging activities. From what we know he continued lecturing on almost all the subjects taught by Aristotle, thus consolidating and expanding the various disciplines his predecessor had developed.

Despite the continuity in doctrine and working method Theophrastus also marks a transition. Aristotle took up investigations in biology, history, logic, and many other fields, and his overall theory aimed at reaching a coherent and metaphysically well-founded system. Eudemus, a contemporary of Theophrastus, worked on physics and mathematics (though not a mathematician himself). Aristoxenus, the closest competitor of Theophrastus for the succession of Aristotle, wrote a 'critical history' of the theory of music.² Theophrastus, however, seems to have preferred physics to metaphysics, initiating a shift of attention fully developed by his successor Strato, nicknamed "the physical philosopher" (ὁ φύσικος). For this reason Theophrastus

¹ D.L. V 36. About Theophrastus' life we know very little; what we know is based on D.L. V and Hesychius, see Sollenberger (1983) 21f.

² See e.g. Jaeger (1934) 329. The alleged strict *Arbeitsteilung* which according to Diels (*DG* 222) existed in the Lyceum because Aristotle gave the 'Auftrag' (Steinmetz 350), seems uncalled for. One may assume that each pupil chose a subject according to his interest and capacities (perhaps with some encouragement from Aristotle), so that some sort of division of the work naturally developed out of this on-going research.

may be considered a transitional figure from the great metaphysical systems to a more physical mode of thinking. Theophrastus' empiricism may also have influenced thinkers outside his own school.³

1. *Date and Transmission of the DS*

It seems that the survival of the *DS* must be due to good fortune.⁴ During the Hellenistic period the discussion of philosophical ideas of the past in written form became an important part of teaching practice. Philosophical systems were summarised into concise and unoriginal overviews.⁵ These collections and handbooks soon were mechanically copied and regularly adapted; the *doxographi* entered the historical scene. It is precisely the existence of these lists — with their concise overviews of opinions arranged according to subjects — which could easily have made redundant an elaborate text such as the *DS*. We know next to nothing about its survival in the form as we have it now, although some traces of its 'influence' can be gleaned from scattered echoes.⁶

In modern times too it has known a peculiar history as to its transmission and the attention it received from the Renaissance onwards. It was rediscovered some time after the *editio princeps* of the Aristotelian Corpus (Venice Aldine press, 1495-97), and printed in the sixth volume which contained many of Theophrastus' works.⁷ Yet it remained relatively unknown. It was omitted from the (afterwards

³ Cf. Grumach (1932) 62f., Steinmetz (1964) 60 ff., 274 ff., 329-34; Mansfeld (1992c).

⁴ This view was already expressed by Usener (1858: 27), who had restarted research into Theophrastus' works (see Ch. 7.1).

⁵ On the nature of the doxographic genre see Mansfeld (1990) 3057 ff., Mansfeld–Runia 1997. That collections of views already existed in some form before Aristotle is argued in Mansfeld (1986). It remains true, however, that Aristotle set the pace for later developments (see Ch. 7.2).

⁶ On this particular topic see e.g. my forthcoming paper 'Theophrastean Echoes? Some Remarks on the Early Transmission of Theophrastus' *De sensibus*' (presented at Trier conference Project Theophrastus July 1999).

⁷ The manuscript (cf. McDiarmid, 1962: 21) must have been discovered between this date and that of the *editio princeps* of the (so-called) *Aldina altera* by Giovanni Baptista Camotius (1552) in which it was included. It also appeared in the Paris edition by H. Stephanus (1557). It would be interesting to find out whether this is an indication that the work was considered not very useful for learning more about Theophrastus' own views. For more on the *fortuna* of the text see especially Schmitt (1971) 275 ff.

standard) editions of Theophrastus' *Opera* of 1605 (Hanau) and 1613 (Leiden). In the last two hundred years it was only twice published in a critical edition,⁸ and the last edition by the American psychologist, G. M. Stratton, with translation and notes⁹ no longer lives up to philological standards.¹⁰ As the philological value of the critical edition in Diels's *DG* is hardly disputed, this edition still is the authoritative text to date.¹¹

We must accept the authority of the manuscripts which unanimously attribute the *DS* to Theophrastus, despite the fact that the title is not found in ancient sources.¹² As was already pointed out this may be explained by the fact that in ancient times a work could be referred to by different titles. So one can never be sure under what title this work was known in antiquity. If the text as we have it was part of a larger whole, reference will probably have been to that work. It should be noted that the *DS* is indeed a strange book to be standing on its own. But then again even a self-contained 'book' may still be part of another work.¹³

Regarding its content and structure the *DS* exhibits many similarities with other Peripatetic works. As a collection it fits the general picture of the research activities of the Peripatos. Aristotle was the first to give writing a firm place in philosophical activity, using it as a convenient tool for his research to collect and classify information. This explains that much of his groundwork consisted in making lists and inventories.¹⁴ The eagerness for information must soon have been balanced by a methodology to prevent the material from becoming

⁸ Schneider (1818) and *DG* 499-529. Cf. General Introd. n.7.

⁹ George Malcolm Stratton (a psychologist). His primary aim was to achieve a better understanding of Greek physiological psychology before Plato and after Aristotle (Stratton 1964, 5). He did not aim at an exhaustive account of Theophrastus' views (*ibid.*, 6). His motives are somewhat anachronistic (e.g. p. 13, "Theophrastus as psychologist of sense perception ..."). But despite these minor flaws his work remains useful, in part because of the comments by A.E. Taylor incorporated into the notes. See also General Introduction, n. 5.

¹⁰ His translation, although useful, is flawed in many points. In a number of cases Tannéry (1887) did a better job.

¹¹ This is not to say that all his conjectures should be accepted.

¹² See *DG*, 501 app. crit. For a possible exception see Ch. 7, n.4.

¹³ This also holds for individual books, or groups of books, of Theophrastus' *Physics* (cf. Steinmetz, 1964: 10-12; cf. fr. 307A *FHSG*), since parts of this work are cited under separate titles (cf. Fortenbaugh 1998).

¹⁴ We may also compare the numerous works mentioned in the list of Aristotle's works such as *Διαίρέσεις*, *Συναγωγαί*, *ὑπομήματα* (cf. Schickert, 1977: 38n. and 69).

unwieldy. It is a fair assumption that collections of *doxai* were structured along lines as suggested in *Top.* A 14, where the listing of views according to certain key-words (today called *Problemgeschichte*) must have formed the embryonic state of later doxographies.¹⁵

On the other hand, significant differences can be pointed out. The combination of report and critique in separate sections such as we find in the *DS* makes the text unparalleled as an example of philosophical investigation of that time.¹⁶ Moreover, the critical evaluations appended to the reports are of remarkable quality and of unusual abundance.

A question which will probably never be answered is that of the date of composition. Regardless of its status this text seems to resist serious attempts to give it its chronological place among the works of the Eresian. There are no explicit remarks as to the motive or goal of the discussion nor do we find any references to other works.¹⁷ The closest parallels we have are the remains of the 'history' of mathematics by Eudemus and the critical review of musical theories by Aristoxenus. The impersonal style and the absence of clear-cut philosophical statements only make things worse.

Apart from this particular problem general questions trouble the reader as he goes over the pages of this remarkable document. How did Theophrastus plan to use these objections and why is he so pertinently critical on many details? Is he faithful in reporting the views of others? Is he selective in representing the material, and if so, how did he proceed? Did Aristotle use the *DS*? In the history of scholarship these problems, if addressed at all, have been approached

¹⁵ Cf. Mansfeld (1990), (1992). Examples of this type of description are frequent in Aristotle (Jaeger, 1934: 325 ff.). Compare Xenophon's *Περὶ πόρων* ("Ways and Means", authorship disputed), Aristotle's *Olympian Victors* (a quite 'objective' collection of facts) and his famous *Collection of Constitutions*, in which he was a real pioneer.

¹⁶ Regenbogen, col. 1553.20 ff. (quoted above, General Introd. n. 4). Perhaps we may compare the critical history of Aristocles or the 'doxography' of Diogenes of Oenoanda (both 2nd cent. AD).

¹⁷ For one apparent exception (*DS* 60) see Ch. 6, n. 89. In the *opuscula* we find several cross-references to works on familiar subjects (similar to those in Aristotle's works). Some also contain indications for a date. But these can not be used to set fixed dates of composition, since Theophrastus will have used his notes for teaching over a long period of time. On dating the *opuscula* see e.g. Eichholz (1965) 8-12, Daiber (1992) 286. More examples of cross-references exist: see Steinmetz (1964) 21n., Gaiser (1985) 47 ff.; Regenbogen, col. 1416.9-10, 1417.3 ff., etc.

individually and from a specific point of view, which assumed the *DS* to belong to a larger body of 'doxographic' texts. I intend to address a number of these questions anew, while assuming that the text as a whole should be judged on its own merits.

2. *Content and General Structure of the DS*

The *DS* has an orderly structure and condensed style. Its main division into two parts (1-58 the senses and perception, 59-92 the objects of sense) betrays its Aristotelian background. The accounts of the theories are densely formulated, yet very informative, and often followed by a critical evaluation. The overall structure falls into three parts:

Introduction. *DS* 1-2 *diaeresis* of opinions; crucial arguments of both parties.¹⁸

Part 1: On perception, *DS* 3-24 like-by-like Parmenides (3-4), 5-6, Plato; 12-24, Empedocles; 25-26, Alcmeon); *DS* 27-47 by opposites *DS* 27-37, Anaxagoras; 38, Clidemus; *DS* 39-48 position 'unclear' Diogenes of Apollonia; 49-58, Democritus.

Part 2: On the sense objects, *DS* 59 general judgment on all; *DS* 60-61, Plato and Democritus go into details (ἐπὶ πλεῖστον ἡμμένον); 61-82, Democritus on πάθη, colors, smells etc.; 83-91, Plato on πάθη, colors etc.

The two parts of the work reflect the Peripatetic scheme, by which the process of perception is analyzed according to the process and characteristics of the object. Because of this it has been surmised that the title of the work probably was περὶ αἰσθήσεως καὶ αἰσθητῶν (*De sensu et sensibilibus*) just like Aristotle's treatise.¹⁹ But given the fact that titles of ancient works often vary, it seems preferable to follow the manuscripts.²⁰

¹⁸ Note that Heraclitus is mentioned in *DS* 1, but not discussed in the text (see below nn. 52-4).

¹⁹ *DG*, 114n.

²⁰ But, as was pointed out by Stephen White (Austin, Texas), the incipit is often the starting point for a title so the singular could be better (paper given in Trier July 1999 and in conversation). I have given two practical reasons for preserving the manuscript version. See General Introd. n. 1.

2.1. *Subject Matter: Part I* (DS 1-2)

We should turn to the introduction and study it in more detail. The list of thinkers constitutes a selection of pre-Aristotelian philosophers who expressed significant views on perception. They are arranged according to two principles which from a Peripatetic perspective (both) play a role in explaining the process of perception. No strict chronology is observed within a group or for the order of the whole: chronology is not an important guideline in this connection (except accidentally).²¹ The two first paragraphs outline the exegetical programme of the treatise as a whole. The first sentence reads:

περὶ δ' αἰσθήσεως αἱ μὲν πολλαὶ καὶ καθόλου δόξαι δὲ εἰσὶν· οἱ μὲν γὰρ τῷ ὁμοίῳ ποιοῦσιν, οἱ δὲ τῷ ἐναντίῳ. Παρμενίδης μὲν καὶ Ἐμπεδοκλῆς καὶ Πλάτων τῷ ὁμοίῳ, οἱ δὲ περὶ Ἀναξαγόραν καὶ Ἡράκλειτον τῷ ἐναντίῳ.

On perception the many opinions are, broadly speaking, of two kinds: some (people) let it come about by similarity, others through contrast. Parmenides, Empedocles and Plato by similarity, those who follow Anaxagoras and Heraclitus through contrast.²²

Theophrastus gives a broad classification (*diairesis*), indicating that we may expect an elaborate discussion of the subject. It encompasses two theories: the belief that 'like is known by like' is very old and the idea that opposites in some act upon each other.²³ The second was probably developed into a systematic point of view by Aristotle.²⁴ As we shall see shortly, the classification constitutes a simplification of the positions known.

²¹ On the diaeretic procedure see Ch. 5.2.1 and Mansfeld (1996) 169 ff. Mansfeld should perhaps have clarified further why we can speak of Theophrastus using a "*deuxième diérèse* ... jamais formulée de façon explicite et formelle, ... entre ceux qui font une distinction entre perception et savoir et ceux qui n'en font pas" (181, his italics). Whereas an explicit division may be given the (apparently technical) label 'diaeresis', it is much more difficult to support such a conclusion from every underlying opposition; to call it an 'implicit' division in the sense of intentional *diairesis* requires additional argument as to its significance in the context under discussion (see also my remarks below Ch. 3, n.11).

²² For the translation of the phrase οἱ δὲ περὶ Ἀναξαγόραν καὶ Ἡράκλειτον see further below (text to notes 52-3). For the philological considerations which may support a caution regarding δέ as a 'clear' sign of continuation (Usener's point that it was part of a larger whole), cf. Verdenius (1947) 274f., *id.* (1974) 173f. and Denniston (1959), 172f.

²³ Hom. *Od.* xvii. 218. Cf. Plato *Symp.* 186c; *Rep.* 329A.

²⁴ Already noted by Stratton, 23 and n. 27. See above n. 6.

Theophrastus adds to the *divisio* of the representatives of the two 'rival' parties the most important arguments they used in favour of their claims. Here he focuses his attention on the supporting arguments given by the thinkers (at least according to Theophrastus). The arguments invoke, he says, a kind of probability (*pithanon*). In this extremely brief preview of the arguments Theophrastus displays his ability to summarize items which are discussed elaborately later. The three key phrases of the 'likeness party' refer to

- "recognizing through similarity" (τῇ ὁμοιότητι θεωρεῖν, cf. *DS* 8, 15);
- "to know what is familiar" (τὰ συγγενῇ γνωρίζειν, cf. *DS* 14, 16);
- "perceiving through effluences and on the principle of like being drawn towards like" (αἰσθάνεσθαι τῇ ἀπορροίᾳ κτλ., cf. *DS* 6, 8).

These points, pertaining both to perception and thinking, are standard elements of the similarity theory. They are all found in Empedocles' account. Next the arguments of the 'contrast party' are summarized:

- "perception through (qualitative) change" (τὴν αἴσθησιν... ἐν ἀλλοιώσει, cf. *DS* 31),
- "like is unaffected by like" (ἀπαθὲς ὑπὸ τοῦ ὁμοίου, cf. *DS* 27, 49),
- "evidence in the case of the sense of touch (we do not feel things of equal temperature)" (cf. *DS* 28).²⁵

It is important to note that some intrusion of Peripatetic terminology makes itself felt. By speaking of *alloiōsis* and "like unaffected by like" Theophrastus seems to rephrase in quite technical terms the original arguments of the Presocratics. The question of relevance is also important, because the broad cosmological theories of Aristotle's predecessors were not formulated within a similar framework of a compartmentalized body of knowledge as in the Lyceum. Yet it remains to be seen whether this is an attempt to draw these earlier theories nearer to Peripatetic doctrine or merely a case of 'linguistic updating' for his colleagues and pupils.

The introduction has a well-marked ending: "these views, then, on perception *in general* were handed down to us". It introduces a transition from the explanation of the overall mechanism and that of the

²⁵ This point calls to mind Ar. *De an.* Γ 11.424a3-5: "That is why we do not perceive what is equally hot or cold or hard or soft, but only excesses ...". Although Heraclitus is also mentioned as a representative of the contrast party, the arguments are almost all from Anaxagoras (*DS* 27-37), as the references show. The occurrence of Heraclitus here is a minor problem commented on below nn. 52-4.

individual senses: “as to *each of the senses separately* the others virtually fail to express themselves (σχεδὸν ἀπολείπουσιν), but Empedocles makes an attempt to refer these (πειράται... ἀνάγειν) to similarity as well” (my italics). The contrast is here between καθόλου and (περὶ ἐκάστης δὲ τῶν) κατὰ μέρος. The author expects the theories to give explanations on both the general and the specific level, which in addition must be explicitly linked.²⁶ Apparently Empedocles seems to be the only one who can live up to such a requirement.²⁷ Points such as these allow us to draw out some of the presuppositions on the part of the author.

2.2. Part II: On Sense Perception (DS 3-58)

If we follow the text beyond the introductory paragraphs, we see that the views of the representatives of both parties are discussed. First the ‘likeness party’, that is, Parmenides (3-4), Plato (5-6) and then Empedocles, who gets considerable attention (7-24).²⁸ I shall return to the critical remarks later. After Empedocles we encounter Alcmeon, Anaxagoras, Clidemus, Diogenes of Apollonia and Democritus. Theophrastus explicitly acknowledges Alcmeon and Anaxagoras as members of the contrast party, but in the case of Clidemus he does not. Diogenes (DS 39) even seems to be misplaced in the sequence of those favouring contrast: Διογένης ... δόξειεν ἂν τῷ ὁμοίῳ ποιεῖν <sc. τὴν αἵσθησιν>. It is also noteworthy that Democritus (DS 49) seems to belong to both or neither. Interestingly, these three cases were not mentioned in the introductory diaeresis.²⁹ Of these only three are extensively criticised, whereas Alcmeon and Clidemus seem to be ‘appended’ because of agreement or disagreement on a specific point with others.³⁰

²⁶ For similar aspects of expository practice (of a more theoretical nature) in Aristotle’s account of sense-perception, cf. Ch.5, n.39.

²⁷ Theophrastus does not acknowledge it in the case of Plato (see Ch. 4, p. 108). The method of starting at a general level and proceeding to the specific level is common in Aristotle, see Bonitz, *Index* 226a4 ff.; but it is also a significant feature of Theophrastus’ methodology, e.g. *De vent.* 36-37 and in the botanical works, see Wöhrle (1985) 23 on *HP*, and *id.* 43 on *CP*.

²⁸ His *explicit* reference to the similarity principle must have won him Theophrastus’ tacit approval (note the fairly technical term *anagein*) and probably gave rise to his primary position in the likeness party. Still, Empedocles’ application of the principle is not left uncriticised.

²⁹ See also Baldes, 1976: 42 ff. Cf. n. 21 and below nn. 41-2 (Mansfeld 1996).

³⁰ See also my remarks in Ch. 2.1.2.

The order of the members of the similarity camp (Parmenides-Plato-Empedocles) is no doubt due to the intention of Theophrastus to deal with their theories according to their increasing completeness, both as to the number of sense organs and their overall doctrine.³¹ The information Theophrastus has on Parmenides is not very extensive, but squares well with what we have in other sources. Plato's position in this camp is not surprising, although Theophrastus seems to have taken his cue from the passage where Plato applies the principle not in a general sense, but to vision only.³² The addition of Alcmeon (*DS* 25-26) apparently disrupts the plan from *DS* 1, but can as we saw (above n. 22) be explained on the grounds of doctrine, which in some points is similar to, in others better than Empedocles'. Alcmeon himself only by inference belongs to the contrast party rather than the similarity party, but he seems to bridge the accounts on the theorists of similarity and those of the principle of opposites.

Anaxagoras (*DS* 27-37) seems to be regarded as the champion of the principle of opposites and receives extensive treatment. Clidemus (*DS* 38) comes next in a short paragraph, appended probably because of doctrinal affinity. Diogenes (39-48) and Democritus (49-58) again receive longer treatment, but regarding their position on the basic principle of perception Theophrastus is somewhat hesitant, which seems unnecessary (and incorrect). The views of Diogenes of Apollonia are reported quite extensively (*DS* 39-48), but in his criticism Theophrastus is clear about the value of the theory: it is naive and too monistic (46-48). Thus the intended completeness of the overview in *DS* 1 is pursued through these additions (some minor deficiencies remain). Some problems of classification in view of the division of *DS* 1 will be discussed in a later chapter (5.2.2).

The final paragraph (*DS* 58) marks a clear conclusion: "such and in this number (σχεδὸν αὐταὶ καὶ τοσαῦται) are, I think, the opinions on perception and thinking which have come down to us from those of earlier times". This brings the whole of part 1 to a close in accordance with the subject as announced in *DS* 2 (*loc. cit.* above), thus giving this part a polished appearance with an explicit beginning and end.

³¹ Mansfeld (1996: 182 n.83) argues that the aspect of the number of senses depends on Theophrastus' use of the category of quantity (cf. *id.* pp. 172, 177, 185).

³² *Tim.* 45-46. For other traces of the τὸ ὅμοιον-principle in the *Tim.* see Ch. 4.

What are we to make of this peculiar catalogue of views initially reduced to a *diaeresis*? First, by reducing the possibilities of general explanation to two positions, the problem becomes in an way surveyable and tractable. After that one can add the related views of some adherents of a thesis and important arguments and perhaps even undertake an examination if necessary.³³ Although in this form the opening sentence has no exact parallel, we may take it as the usual Peripatetic way to start a dialectical discussion of historical material.³⁴ However, names and views on the subject are added later which were not mentioned in the first paragraphs.

Furthermore, cross-references establish a relationship between the various views, thus rendering the presentation more ‘systematic’.³⁵ For all we know it may be a sign of his didactic method that he emphasizes similarities (and sometimes differences) of opinion.³⁶ In any event in the *DS* they give us clues as to why certain views are mentioned at particular positions. Thus Theophrastus compares Alcmeon to Empedocles on thinking and perceiving (*DS* 25) and notes that Alcmeon, unlike Empedocles, does *not* regard these as identical. In view of the special attention Theophrastus gives to this distinction³⁷ Alcmeon seems to have done a better job and therefore deserves a place in an inventory of noteworthy opinions. Another case is Clidemus (*DS* 38), of whom we know almost nothing.³⁸ Apparently he is a sort of appendix to Anaxagoras, for he is contrasted with the latter, because “he did *not* make *nous* the principle of all things” as Anaxagoras did.³⁹ Again no criticism

³³ Arguably this is an examination “from both sides” (πρὸς ἀμφοτέρω διαπορῆσαι) as is the phrase in *Top.* A 2.101a35 (on this dialectical feature see below Ch. 2, p. 33).

³⁴ As parallels in which δύο has a qualitative aspect reducing “many views” (πολλά) to “two kinds” – instead of being merely a numerical device – we may point to *Ar. Metaph.* 1069a34 οἱ μὲν εἰς δύο διαιροῦντες, 1076a16 f. δύο δ’ εἰσὶ δόξαι περὶ τούτων, and 1091b15 ἡ μὲν οὖν ἀπορία αὕτη, ποτέρως δὲ λέγειν (*De an.* 403a28 is perhaps more literal).

³⁵ At the back of this could very well be Aristotle’s advice (*Top.* A.14) to make lists of the views of philosophers on certain subjects and annotate them (105b12 ff. χρῆ ... τὰς δὲ διαγραφὰς ποιῆσθαι περὶ ἐκάστου γένους ὑποτιθέντας χωρὶς; see also Ch. 2, n. 19).

³⁶ The same feature is found in Aristotle and in the Simplicius fragments of Theophrastus’ *Physics* (e.g. *Phys. op.* *DG* 476,18; 479,3.16; 480,1-2, although in a slightly different form).

³⁷ On which see Ch. 3.1 and 5.1.

³⁸ Cf. *DK* p. 415, 7-14. In Theophrastus see *CP* 1.10.3, 3.23.1; *HP* 3.1.4.

³⁹ οὐχ ὥσπερ Ἀναξαγόρας ἀρχὴν ποιεῖ πάντων τὸν νοῦν. More on cross-references (*DS* 17, 35, 91) or systematic connections (60) in Ch. 7.2. Cf. O’Brien (1968) 93-113.

is added.⁴⁰ Here too a minor thinker is tagged on because his use, or non-use, of a crucial concept stands out against that of a colleague.

Two thinkers are added later (Alcmeon, Clidemus). A closer study of their position shows that the reasons for their presence are both explicit and implicit. Alcmeon (*DS* 25-26) is introduced as a thinker who believes that we perceive "not through what is similar" (μὴ τῷ ὁμοίῳ). The report is brief, but not unsympathetic to the views brought forward (presumably in one or two respects regarded as better than Empedocles'). Alcmeon also discussed sense organs "individually" (as did Empedocles) and his theory contains almost all the elements required according to Theophrastus' standards, except for touch. There is an explicit comparison with Empedocles on a doctrinal affinity (see above). No objections are formulated.⁴¹

Such explicit indications make us curious about less patent reasons for adding thinkers. Alcmeon's theory of the *brain* (*DS* 25-26) can be linked to that of Anaxagoras (*DS* 28, cf. also Diogenes) and contrasted with Empedocles' (*DS* 25, referring to *DS* 10), whereas Clidemus' view on the *nous* is (as we saw) contrasted with the role Anaxagoras gave it (*DS* 38). Thus it becomes clear that similar points of view or different points of view on a similar topic are set off against each other, presumably to help clarify the different aspects and interpretations of the subject under discussion. The internal cross-references are signs of Theophrastus' command of the material he is discussing. Perhaps they even are an indication that Theophrastus wrote these notes within a short span of time.

Finally, it should be noted that the subject or theme of the *DS* is broader than the opening words suggested: not only perception and pleasure and pain are discussed, but also thinking (in the case of Parmenides, Anaxagoras, Diogenes, Democritus). The inclusion of such material is probably due to the fact that Theophrastus' reports echo much of the actual content of his sources.⁴²

⁴⁰ It is not clear whether διαφανεῖ means the same for Alcmeon (*DS* 26, see Stratton 1964 *ad loc.* and Taylor, 1928: 486). As to hearing his view is that not the organ itself hears but that it transmits sound to the mind. Despite this he does not regard *nous* as the source of everything (as Anaxagoras did). Note that each sentence begins with the naming of the sense organs; it is a good indication that the report is genuine and close to the original (as with Alcmeon). The general order too is peculiar (sight/ hearing/ smelling/ taste), while the absence of touch is not indicated here by Theophrastus (as it is e.g. in *DS* 6, 26, 40).

⁴¹ On the order and structure of *DS* 1-58, see also Mansfeld (1996).

⁴² Theophrastus seems to follow his source text rather closely in this respect.

2.3. Part III: On Sense Objects (DS 59-92)

In the second part of the work (DS 59 ff.) Theophrastus announces his next larger topic, the sense objects (or perceptibles, αἰσθητά), with the formula περὶ δὲ.⁴³ A contrast is created between, on the one hand, a group of thinkers who — according to Theophrastus — did not provide a sufficient account of the matter (59 *init.*) and, on the other, Democritus and Plato.⁴⁴ Theophrastus wants us to believe that most thinkers have neglected or have only poorly commented on the objects of sense. After casually mentioning some of their remarks (DS 59) Theophrastus goes on to discuss at length the views of Democritus (DS 60-81) and Plato (DS 82-91). Again the plan of exposition is according to a division into two (now mutually exclusive) positions. Again Theophrastus makes much of the basic assumption of their theory (*hypothesis*, DS 60) and he adds elaborate criticism of specific details.⁴⁵ The remaining paragraphs (DS 61 ff.) are taken up by a discussion of the views of Democritus and Plato, because they *did* treat sense objects in detail (DS 60, “they touched upon these matters more extensively, as they define many individual points”). Theophrastus adds that both seem to give explanations which would fit the other’s thesis better, but he does not work out a (dialectical) confrontation between the two views. Here the evaluation of their position with regard to the basic principle becomes a somewhat forced attempt to create a cross-over of basic postulates, since their statements regarding the nature (*physis*)⁴⁶ of the sense objects seem to go against their general principle and consequently “each of these thinkers would seem to speak directly counter to his own *hypothesis*”.⁴⁷ Regardless of the truth of this assertion, this is

Stratton (15 n.1) may be right that incorporating thinking and the soul as well was part of Theophrastus’ initial plan (cf. Ar. *De anima* A 1.402b13; Γ.3; *De sensu* 437a1). The concluding remark at DS 58 is not so much a corrective remark with respect to DS 1 as an explicit extension. Cf. Mansfeld (1996).

⁴³ On the particle δὲ see also my remarks regarding DS 1 in n. 22 and Ch. 7.2.

⁴⁴ These ἄλλοι are, on the one hand, Empedocles and Anaxagoras, the chief representative of their group, and on the other, certain other thinkers who maintained that black and white are the basic principles of colours. On black and white compare Aristotle, *De sensu* 439b20- 440a19; 445b21-26; *Top.* 109a27-36 (color: genus of black and white and shades between); 123b26.

⁴⁵ This immediate evaluation of the relation between the basic assumption and the supporting arguments is an important feature of his ‘theoretical conditions’. (More on this point in Ch. 3 and Ch. 6.)

⁴⁶ On this specific point see DS 59, 89 and my remarks in Ch. 4.2 (p.116).

⁴⁷ ὥστε δοξειεν ἂν ἐκάτερος ἐναντίως τῇ ὑποθέσει λέγειν, DS 60; tr. Stratton slightly

the interpretation presented as programmatic for the paragraphs to follow.

The thematic sections of these discussions are marked by the topic at the beginning (e.g. "on heavy and light ...", "on colors ...") and are clearly influenced by the source. The amazing amount of detail regarding the theories of both thinkers is hard to account for unless one assumes that our text preserves the order of the original treatises (or *epitomai* of these works, cf. n.48). That this hardly solves problems of a more philosophical kind need not be emphasized. The question whether this account faithfully reflects genuine doctrine remains to be answered (see Ch. 4).

For Democritus again a slight divergence in the presentation of report and criticism occurs. In the section dealing with Democritus criticism is given between smaller chunks of reports (the *report* in 61-68 corresponds to *criticism* in 68-72, as does 73-78 to 79-82). It is noteworthy and perhaps significant that in both sections on Democritus such a deviation in the method of exposition can be found. One reason for this could be that different works were used for the excerpts.⁴⁸ This could mean that in each individual case Theophrastus first added his critical remarks before proceeding to the next topic. If this is true, it exemplifies the assumption that Theophrastus had to make an effort to collect information from different quarters in order to obtain specific information from writings which antedated the compartmentalized view of science.

Plato is discussed in a like manner as far as the demarcation of topics is concerned. Theophrastus paraphrases the views on e.g. hot and cold, soft and hard, tastes, smells, sounds and colors (*DS* 82-86). The end of the report (*DS* 86, end) is explicitly concluded with an interesting remark: "This gives fairly well the things he said and how he defined them" (ἃ μὲν οὖν εἶρηκε καὶ πῶς ἀφώρικε, σχεδὸν ταῦτά ἐστιν).⁴⁹ This could be taken *either* as an expression of contentment regarding the sufficiency of the account/ summary just presented *or* as an indication that the information found here was all the reporter had at his disposal. The report provides ample reason, both in structure and in content, to examine the relationship between these passages

modified.

⁴⁸ Cf. the hypothesis advanced by Baldes (1976) n.8 that Theophrastus used different works of Democritus. See also Ch. 4, n. 64 and Ch. 5, n. 161.

⁴⁹ On the formula μὲν οὖν ... σχεδὸν ταῦτά ἐστιν cf. Ch. 2, n. 149. Note that, unlike part 1, there is no final statement concluding part 2 as a whole.

and the *Tim.* in more detail. This point along with the expository and argumentative features of the criticisms will be discussed in Ch. 4.

2.4. *Some Criteria of Selection*

The foregoing subsections have given a first impression of the content and structure of the *DS*. We are now able to address one aspect of Theophrastus' motivation for writing this overview, namely his criteria for selecting certain thinkers. His choice of *persons* is not identical with Aristotle's. As we will see in Ch. 2.2, the relevance, originality, and consistency of earlier theories were the major criteria for Aristotle to incorporate and discuss them in his overviews. In collecting the views he often aims at a comprehensive collection on the topic at issue in order to be sure no relevant solution is left out. When dealing with perception, however, Aristotle's choice is far from being comprehensive — he discusses respiration and vision only, and those positions contrary to his own (Democritus, Diogenes, Empedocles).

Theophrastus' discussion is more elaborate than Aristotle's. If this is not due to the important role he ascribed to *aisthêsis*, the lack of an extensive and systematical discussion of previous views in Aristotle may also justify such an undertaking. Their interest for Theophrastus was in part determined by their originality and a certain affinity to the current view on the subject. This combination of features, one would think, determines the amount of space the views are given in the reported version. It would seem that strict relevance is a pertinent factor for Theophrastus in the process of selecting tenets from the available treatments.

The question of selection raises the further point of completeness. Despite the opening statement in *DS* 1 and the conclusion of *DS* 58 the selection of persons discussed in the *DS* is not an exhaustive overview of those thinkers who are known to have expressed views on perception.⁵⁰ Though Theophrastus seems to indicate that the *collecting* of tenets was in itself one of his aims⁵¹, the text also shows there are restrictions. The division which introduces some of the adherents of either principle is, as was pointed out before, general (generic) rather

⁵⁰ Cf. n. 53.

⁵¹ *DS* 1: περὶ δ' αἰσθήσεως αἱ μὲν πολλαὶ καὶ καθόλου δόξαι δύο εἰσιν· οἱ μὲν γὰρ ..., οἱ δὲ Compare *DS* 58: αἱ μὲν οὖν περὶ αἰσθήσεως καὶ τοῦ φρονεῖν δόξαι σχεδὸν αὐταὶ καὶ τοσαῦται τυγχάνουσιν οὔσαι παρὰ τῶν πρότερον.

than comprehensive. So when he mentions Heraclitus alongside Anaxagoras but does not treat him in the body of the text, he seems to indicate that he only deals with the noteworthy views on perception.⁵² The formula οἱ περὶ ... is a way of classifying types, as is even more patent when we consider the arguments quoted for the contrast party in *DS* 2.⁵³ They refer without exception to the arguments discussed in the section on Anaxagoras. Clearly the coupling of the two was meant to clarify positions by bringing forward the (traditional) champions of contrast and opposition.⁵⁴

3. *Previous Interpretations*

The importance of the current view can only be understood in the context of the historical and scientific framework of the historiography of Greek philosophy. In doing so we hope to elucidate the important part played by the *DS* in the reconstruction of the doxographic tradition(s) as well as the influence of the presuppositions with which such texts were analysed in the past. Since our own solution defended in the present study takes issue with several previous positions, a summary account of the development of the study of the ancient historiography of philosophy is indispensable. For the sake of convenience, three stages may be distinguished.⁵⁵

Stage I, Quellenforschung. The study of the ancient historiography of philosophy is still based on H. Diels, *Doxographi Graeci*, first published in 1879. Inspired by his teacher Usener and building on the latter's

⁵² Various suggestions have been made to explain the presence of Heraclitus. It has been surmised that there is something wrong with the text and that it is not Heraclitus who is meant. But there is no reason to doubt the manuscript reading here, see App. A, sub (i).

⁵³ This may explain why Theophrastus neglects the views of Heraclitus on perception, even if not many of these are found. Apparently his interest in Heraclitus was more cosmological (cf. D.L. IX 7-10 [= DK 22A1])? Cf. next n.

⁵⁴ For the relation between *DS* 1 and the Anaxagoras passages, see Ch. 3.1 and above n. 25. The same suggestion was put forward by Laks (1988) 262 with note, who thinks Heraclitus' presence has a "valeur purement emblématique". See also next note.

⁵⁵ For the following I also draw on the critical assessment of Diels's methodology in Mansfeld (1987) 286 ff., (1989) 136 ff. and (1990) 3061 ff., Mansfeld–Runia (1997).

earlier publications, Diels reconstructed an entire doxographic tradition, arguing that it derives from Theophrastus' lost *Physikon doxai*, as they called it (the title is now disputed). Diels based this reconstruction on his survey of data concerned with the Presocratics found in a plurality of sources, pointing out the resemblance between this construct and the purported remains of Theophrastus' lost historiographical work. Among these 'fragments' (printed in *DG*, 475-529) are the references to Theophrastus in the first book of Simplicius' *Commentary on Aristotle's Physics*. These fragments deal with the physical *archai* ("first principles") of the Presocratics and Plato. Usener and Diels believed that they should be ascribed to the *Physikon doxai*.

Using an argument from analogy, Usener⁵⁶ and Diels also ascribed the *DS* to the *Physikon doxai*. On account of certain other details and (alleged) similarities in its structure Usener found himself unable to regard the *DS* as an independent work, though no serious arguments are given.⁵⁷ Next, Diels reconstructed the structure and intentions of the *Physikon doxai* primarily from the structure and intentions of the *DS*. It will be clear that the procedure of Usener and Diels, although perhaps not viciously circular, is at any rate arbitrary.⁵⁸

We can see now that the *Phys. dox.* became of major importance to Usener and Diels as the single source from which most doxographic reports (ultimately) derived. Their view was based on the archetype model philologists had developed.⁵⁹ This approach was not without its merits and quite understandable within the context of scholarly methods at the time. But by the turn of the century scholars tended to cut up the available material (from sources such as e.g. the *DS*), thinking that they could use (allegedly trustworthy) information without heeding the nature of the treatise from which it had been taken. In this way they neglected the role the tenets played in their original context

⁵⁶ Cf. Mansfeld (1989) 157, n.49.

⁵⁷ Usener (1858) 25f. follows Schneider (*Opera Omnia* vol. V (1821) p. 141, cf. also 233) and is followed by Diels, *DG* 102 ff. For details see Ch. 7.1.

⁵⁸ Doubt on this point was already expressed by Stratton, 15 and Regenbogen, col. 1400.8-19.

⁵⁹ The method is that of nineteenth-century stemmatology (developed by Lachmann and others), which philological editors of an ancient text use to derive the plurality of extant manuscripts ('sources') from a lost *archetypus*. Apparently Diels believed that the same approach applied to the texts related in content. His search for a single common source is beyond doubt. On Diels's method see Mansfeld-Runia (1997) Ch. 2, on stemmatology as a form of comparativism see Mansfeld (1998).

and failed to study the motives of the authors who excerpted the sources.

The influence of the Dielsian reconstruction of the (Theophrastean) doxographic tradition was strong, but indirect. Diels wished to prepare a solid basis for reconstructing the theories of the individual Presocratics. His famous *DK*, first published Berlin 1903 (without critical apparatus), presents the material in a fashion which for the most part is based on the reconstruction of the tradition provided in his *Doxographi graeci*. It has become customary to work from the *FdV*, and today the *DG* is studied by relatively few scholars.⁶⁰ One may submit that Diels' *reconstruction* of the tradition, based in its turn on his *interpretation* of the sources for Presocratic philosophy, was until recently the basis of the flourishing research industry dealing with the Presocratics.

Stage II, Cherniss's distortion theory. Building on the materials assembled in *DK*, some scholars in this century have entertained the (too strong) view that Aristotle and Theophrastus may only be used as sources for Presocratic philosophy with the greatest possible reserve. Although this attitude has a commendable side to it, one should not be blind to the motives that lay behind it. Scholarly reserve arose when the *verbatim* fragments (the so-called B-fragments) in Diels's *DK* were compared with the reports of Aristotle and Theophrastus and those believed to derive from these (the so-called A-fragments). On the basis of this comparison, scholars argued that in these reports the views and notions of the Presocratics were assimilated to the theories and concepts of Peripatetic philosophy. The best known examples are the influential studies of Aristotle's relation to his predecessors by Harold Cherniss.⁶¹ As a result, people thought in terms of a 'distortion' of Presocratic thought by Aristotle and his followers.

From a methodological point of view this indiscriminating way of comparing what is to be found in Aristotle and Theophrastus with what is to be found in the so-called B-fragments is dubious, because Diels's reconstruction of the doxographic tradition, as we have

⁶⁰ One important example of these few exceptions and some recent contributions in current research are mentioned in Ch. 7.1.

⁶¹ Cherniss (1935) and (1944). This approach began with the influential paper of Heidel (1906) on qualitative change in Aristotle and the Presocratics and had several followers (McDiarmid, Thompson). But many European scholars held on to the theory of Diels (e.g. Burnet, Kirk & Raven).

noticed, is quite problematic.⁶² Furthermore, the specific nature of the Peripatetic reception has not been acknowledged by these critics of Aristotle and Theophrastus. Finally, the B-fragments that are extant have also survived in contexts that have been determined by varieties of reception. Therefore it has been strongly urged that both the doxographic tradition(s) and the Peripatetic dialectic reception should be studied in an unprejudiced way. Our conclusion must be that a more correct evaluation of the materials at our disposal becomes possible only by means of a critical evaluation of Diels's method and presuppositions on the one hand, and of the Peripatetic dialectical methodology employed by Aristotle and Theophrastus on the other.

Stage III, Reception. It is a fairly recent phenomenon that the study of ancient historiography of philosophy has started liberating itself from the dominating influence of Diels. In more recent years the flaws of this reconstruction and the *Einquellentheorie* as a whole have come under attack. Steinmetz (1964) has shown that the attribution of the fragments in Simplicius to the *Physikôn Doxai* is questionable.⁶³ Steinmetz argues that they derive from Theophrastus' *Physics*. Although he cannot show this for every fragment, it entails that the analogy on which Usener and Diels based their ascription of the *DS* has become dubious. Accordingly, the status of the *DS* and its relation to the *Physikôn Doxai* (or, perhaps, its affinity with the *Physics*) needs to be investigated afresh.⁶⁴ Others, too, have criticised certain aspects of his method, such as the elimination of affiliations posited in the ancient sources by the relentless use of scissors and the neglect of sources beyond what, according to Diels, constitutes the main (i.e. Theophras-tean) tradition.⁶⁵

But also the fairly common view exemplified by Cherniss's and McDiarmid's studies, viz. that Aristotle and Theophrastus are guilty of gross misrepresentation, is past its heyday. A new understanding of the

⁶² Diels was wrong in thinking (or perhaps hoping) that the tradition was a 'closed' one, that is to say, one which could be traced completely so as to result in a single coherent picture. A real flaw of his reconstruction is that he did not further investigate other traditions that existed. Of course, this does not reflect upon the brilliant findings of his Aëtius theory as a whole (cf. Mansfeld, 1990: 3062).

⁶³ Steinmetz (1964) 335 ff. ("Appendix").

⁶⁴ This was pointed out by Gottschalk (1967) 20 and Mejer (1978) 82 n.45.

⁶⁵ See Mansfeld (1987) 287 ff., *id.* (1990) 3061 ff. and Gottschalk (1967) 25, *id.* (1985) 543 ff.

true nature of Aristotle's method of presenting the views of his predecessors has come within reach. It has been acknowledged that Aristotle's 'historical' introductory overviews are not merely descriptive and critical in a negative sense, but dialectical in a more positive sense. This entails that his critical inventories and scrutinising of given views and tenets pertaining to problems in philosophy and science are geared to a constructive purpose, in as objective a way as ancient methods and circumstances allow. Consequently, to speak of *distortion* would be too harsh: we should think of it rather as *reception* (reception as determined by the scope of Peripatetic dialectic).

4. *Strategy*

From this rapid overview of the main stages in the development of the study of the historiography of Greek philosophy the framework has been defined within which the proposed investigation is to be located. The main objective of the present study is to reach a more balanced view of the methodology of the *DS* according to two basic guidelines: 1. by regarding it *as a Peripatetic document* and 2. by studying it *as a whole*, but paying particular attention to the critical evaluations. The reader should not expect a comprehensive treatment of Presocratic psychology, but first and foremost an investigation into Theophrastean methodology and doctrine. Although the collecting of Presocratic fragments has been a worthwhile endeavour, we will follow the more recent trend by paying attention to the contexts these snippets of information were taken from and to examine the argumentative methodology of the reporter and critic.

The approach taken in this study is characterised by adapting, as it were, a 'Peripatetic point of view' on the basis of (a specific interpretation of) Aristotelian dialectic. As a general method of argumentation it is especially useful as an heuristic device. Since we know that Theophrastus continued the dialectical tradition,⁶⁶ we aim at judging the philosopher on his own terms. Moreover, this approach makes the modern commentator more sensitive to concepts and terms which otherwise will remain (and, as we will see, have remained) unnoticed. Especially in a formal analysis such as the present one these sparse

⁶⁶ On Theophrastus' work in logic and dialectic see Bochenski (1947), Repici (1977), Huby (forthcoming), Gottschalk (forthcoming).

indications in the text must be fully exploited in order to gain some insight into the underlying mechanisms. In addition, emphasis will be laid on the recent insight that dialectic is more intrinsically connected to the phenomenon of collecting *doxai* than was previously acknowledged. This may lead to a better understanding of the nature of the *DS*.

Considering that the recent developments in our understanding of the Peripatetic method of reception should be taken into account, the present study must be regarded as a preparatory step towards reaching a more balanced interpretation of a plurality of Presocratic doctrines. We should bear in mind that (1) previous inquiries into the method(s) applied in Theophrastus' works have omitted to determine its (their) character in relation to Aristotle's dialectic and have, until very recently, been limited to the botanical works⁶⁷, and (2) that several other dialectical-doxographical passages can be found in Theophrastus' works.⁶⁸ The determination of the nature of the work (presumably a question of historiographic *versus* systematic) may have implications for the evaluation of Diels's reconstruction of the Theophrastean doxographical tradition.

⁶⁷ See e.g. Senn (1933), Strömberg (1937), Wöhrle (1985). On the Arabic tradition see Wagner/ Steinmetz (1964) and Gutas (1985), Daiber (1985).

⁶⁸ I present an brief overview of these in Ch. 2.3. To be excluded is Theophrastus' *Meteorology*, extant in Syriac and Arabic translations which has been regarded as a doxography (Reitzenstein (1924), Wagner/Steinmetz (1964)); against this see now Daiber (1992) 281, 285.

CHAPTER TWO

PERIPATETIC METHOD: DIALECTIC AND DOXOGRAPHY

In this chapter we will try to put Theophrastus' methodology into perspective and inquire in what way his working-method differs from Aristotle's. In particular we are interested in Aristotle's approach in his 'historical' surveys, where comparison with the *DS* seems useful. We will then proceed to deal with Theophrastus' explicit remarks on method, and finally, we should consider examples of how he proceeds *de facto*.

In method and doctrine Theophrastus remained faithful to the teachings of his master in the main outlines. It is certain that Theophrastus followed Aristotle in occupying himself with dialectic. His reputation as an eloquent teacher and rhetorician was considerable.¹ He wrote books on problems,² an introduction to dialectic, and a *Topics* of his own.³ He also is reported to have practised the genre of the *thesis* (θέσις), a treatment of a general proposition by the method of 'arguing from two sides' (*in utramque partem disserere*).⁴ It is unfortunate that we have little evidence for his theoretical considerations in this field. It seems that Theophrastus aimed at providing a shorter *Topics*, as the extant book numbers indicate. According to Alexander of

¹ It is said to have brought him many students; D.L. V 37 speaks of up to 2000 pupils (a number more likely as a total than as a measure of class size, but certainly an indication of his popularity). Cf. Cicero *De fin.* 5.10.

² Alex. *In Top.* 27.14-18 (Wallies) and D.L. V 48 Προβλημάτων συναγωγῆς α'.

³ See D.L. V 50 Τὰ πρὸ τῶν τόπων α' (Bochenski, 1947: 29 is probably right in arguing that this was an introduction to dialectic; cf. Regenbogen, col. 1380f.). Cf. V.45 Τοπικῶν α' β' and Alex. *In Top.* 55.24 Wallies Θ. δὲ ἐν τοῖς αὐτοῦ Τοπικοῖς. On the early history of the *Topics* after Aristotle see now J.M. Van Ophuijsen, 'Where have the *Topics* gone?' (1994 *RUSCH* vol. 6).

⁴ See Theon, *Progymn. παραδείγματα δὲ τῆς τῶν θέσεων γυμνασίας λαβεῖν ἐστι παρὰ τε Ἀριστοτέλους καὶ Θεοφράστου; πολλὰ γάρ ἐστιν αὐτῶν βιβλία θέσεων ἐπιγραφόμενα* (Spengel, *Rhet.Gr.* II (1854) p. 69 [= fr. 74 *FHSG*]) and e.g. D.L. V 44 Θέσεις κδ', V.46 περὶ ψυχῆς θέσις μία, V 49 Θέσεις γ'. It is also a dialectical item (*Top.* A 11). Theophrastus' stylistic achievement in this genre must have been worthy of his reputation, as D.L. IV 27 [fr. 75 *FHSG*] testifies. On the nature of the *thesis* see the fundamental study by Thom (1932); for its importance in Hellenistic philosophy see D. T. Runia (1981) 116 ff.

Aphrodisias⁵ he obscured matters by applying one universal method to the predicables. Aristotle had dismissed this option, precisely because he suspected it would lead to obscurity (*Top.* A 2.102b36-103a1).

The study of Theophrastus' working method, for which sufficient self-explanatory statements are lacking because the logical works are almost completely lost, can profit from the study of Aristotle's *Topics*. It can be shown that both thinkers use dialectical procedures. Theophrastus' discussions of *doxai* in his *opuscula* and in his botanical works bear signs of a similar approach (see Ch. 2.3). In doing so we will learn more about the extent to which Theophrastus made use of *doxai* in his systematic works and in what way his approach resembles Aristotle's. This may also clarify the relationship between systematic discussions of *doxai* on the one hand, and collections of *doxai* on the other. Thus the present chapter will form our springboard for the problems involved in the analysis of the *DS*.

1. *Interpreting Aristotle's Topics*

Aristotle's approach in dealing with *doxai* derives from dialectical exercise. A provisional definition could be his critical assessment of existing views in relation to specific problems in philosophy. But the relationship between his claims for usefulness of the dialectical method in *Topics* A.1-2 and Aristotle's actual way of proceeding in his treatises (applied dialectic) is problematic.⁶ In this chapter it will be argued that the *Topics* provide the key to understanding his motive for this procedure. To make the reader sensitive to the argumentative patterns and vocabulary of the deeply entrenched tactics brought about by dialectical training I will discuss both the 'theory' and the 'practice' of Aristotle's dialectic.

Aristotle's dialectic has become a much-used tool to clarify certain aspects of his methodology. In recent years it has been argued

⁵ Alex. *In Top.* 55.24 ff. Wallies (following the quotation in note 3) ἐν τοῖς αὐτοῦ Τοπικοῖς καθόλου μίαν μέθοδον παραδιδόναι σπουδάσας ... ἀσαφεστέραν ἐποίησε τὴν πραγματείαν. For the extant fragments of his dialectical and rhetorical treatises see Repici (1977) 193 ff. and *FHSG*, fr. 666-713 ("Rhetoric and Poetics").

⁶ The difference between expository and heuristic procedures in Aristotle's methodology is one of the standard problems of Aristotelian scholarship. For a possible answer see Barnes (1975) 65; for restrictions on this view see Burnyeat (1981) 115 ff.

persuasively that the goal of dialectic is not just to prove a thesis and win a debate⁷, but also and more importantly, that dialectic is an argumentative tactic to test and refute propositions.⁸ As Aristotle states himself (*Top.* A 2.101a35 ff.) it is useful for making preliminary investigations into basic principles, starting from *endoxa*, “reputable opinions”, i.e. views which are in good repute among certain people.

Despite the early date of composition dialectic was not made redundant by the *Analytika*, but it remained of value as a method of *inventio*, having both critical and theoretical abilities and playing a constructive role in philosophical investigation.⁹ A closer examination reveals the *mental ability* it provides to refute and avoid being refuted, enabling one to approach a problem discursively from both sides (*diaporêσαι*). On the basis of these recent interpretations I will argue that the dialectical method transcends the level of ordinary and eristic debate by a process of *interiorisation*.¹⁰ It is by looking for this implicit quality of dialectic that we learn more about its value for the philosophical disciplines.

Aristotle himself stressed that the dialectician not only needs training, but also a good deal of talent (*Soph.El.* 163b14; cf. *PA* A 1. 639a1-7). The educated man was the person he had in mind for this argumentative procedure, and therefore abilities of high level were required as well as the right *intention* in using the method.¹¹ This means that we must go below the surface of the concrete description of the

⁷ E.g. Moraux (1968) 277, 279.

⁸ Galston 1982, Beriger 1989. Note that even the Greek commentators made a connection between certain ‘doxographic’ discussions in Aristotle and the mandate of *Top.* A 2 (Simplicius, *In Phys.* 47.22 Diels; *id.* *In De caelo* 523.25-27 Heiberg; Alexander, *In Metaph.* 174.3 Hayduck; Asclepius, *In Metaph.* 140.7 Hayduck). Cf. McKeon (1948) 3 ff. (cf. Ch. 4, n. 77).

⁹ Compare D.L. V 28-29, Cicero, *Topica* 6. It is important to keep in mind that dialectic (in the sense of *Topics* A 2) is philosophically prior to the *Analytics* and ensures the correct selection of premisses (*APr.* A 30, 46a28-30). The many cross-references between the *Topics*, the *Analytics* and *Rhetoric* also indicate that Aristotle regarded them as closely related subjects which complement and overlap each other. In other words, for Aristotle the *Topics* had a place among the logical works [e.g. *APr.* B.16].

¹⁰ I am much indebted to recent investigations in this matter, in particular on the (as far as I can see, unnoticed) paper by M. Galston (1982).

¹¹ On the educated man, cf. Kapp (1931) col. 1055 end, Beriger (1989) 8-13. On this aspect of a persons’ *attitude* see also *Soph.El.* 12, 161b16-18, 165a30 f.; *Rhet.* 1355b17 f.; 17-21 ἡ γὰρ σοφιστικὴ οὐκ ἐν τῇ δυνάμει ἀλλ’ ἐν τῇ προαίρεσει ... ἐκεῖ δὲ σοφιστὴς μὲν κατὰ τὴν προαίρεσιν, διαλεκτικὸς δὲ οὐ κατὰ τὴν προαίρεσιν ἀλλὰ κατὰ τὴν δύναμιν.

method and try to establish what further special quality the training method provided apart from a vast repertoire of rules, guidelines and instruments (which are so to speak the explicit properties of dialectic).

Recent interpreters of dialectic had to deal with three misconceptions. *First*, (negative) judgements on dialectic over-emphasized the central books of the *Topics*. Their content corresponds primarily to the training level of the art and says less about applied dialectic than is usually assumed. Though we may readily concede that the different functions (*Top.* A 2) are closely interrelated, it is obvious that the exercises described in the central books have a ‘course text’ quality which differs from everyday conversation and philosophical practice. This gap has somehow to be bridged.¹² A *second* source of misinterpretation is the term *endoxa*. Confusion over its relation to *doxa* enhanced the contrast between dialectic and analytics at the expense of (the reputation of) the former. The *third* point we should mention is the occasional contrast Aristotle himself draws between dialectic and demonstrative science (*Top.* A 1). I think that the two methods also have much in common, so that it remains to be seen whether the differences actually make them opposite tactics instead of complementary ones. Even if dialectic was *initially* meant to counter sophistic practices, Aristotle’s effort to distinguish sophistry from dialectic proper lead him to turning common practice into a *techné*, thus providing a reasoned basis for systematic argument.¹³

1.1. *Dialectic as Training in Consistency*

The higher goals of the gymnastic exercises are set out in books one and eight, where Aristotle clarifies the aims and functions of dialectic. Right at the start of his treatise on dialectic Aristotle states his objective: “The aim of this treatise is to find a method with which we will be able to syllogize on any given *problēma* that is put before us on the basis of *endoxa*, and (with which) we will not utter a contradiction while upholding an argument ourselves” (101a). Aristotle’s general aim is to develop a method (*methodos*) which enables a person to become

¹² It is important to note that the relationship between the three main functions (*Top.* A 2: training, everyday dispute, philosophical sciences) was not explicitly clarified by Aristotle.

¹³ Cf. *Soph.El.* 34, 183b1-3. For his definition of *techné* see *Met.* A 1.981a5 ff. His other major claim to originality concerns the precepts for the task of the answerer (cf. below n.18).

trained in arguing for and against a thesis.¹⁴ There is a linguistic and an argumentative side to his approach. The debate contains several stages, in which the gathering of arguments and self-refutation form the most important anticipatory activities.¹⁵ Aristotle outlines some fundamental “instruments” (*organa*, *Top.* A 13) which are helpful in obtaining syllogisms. These instruments can be regarded as general strategies which allow one to start a dialectical debate.¹⁶

To bridge the gap between dialectic *qua* exercise and dialectic in philosophy, three points are essential: the mechanism of the debate, the intrinsic effects leading to investigative abilities, and the application of these features in philosophical research.¹⁷

(1) *The gymnastic debate.* The roles of the participants differ from those in an ordinary discussion. Certain restrictions are valid, and an intricate procedure of question-and-answer is envisaged.¹⁸ After the roles of questioner and respondent have been assigned, the latter has to choose a thesis (τὸ ἐν ἀρχῇ) and then the questioner will adopt the thesis opposite to it (e.g. *problēma*: Is the cosmos eternal or not? Thesis: the cosmos is eternal; antithesis: the cosmos is not eternal). At this point the game of question-and-answer begins. The questioner aims at deducing his part of the *problēma* from admitted propositions put forward in questions. He will try to obtain assent regarding the premisses he lays before him (*proteinein*) and to construct eventually a syllogistic (i.e. deductive) proof for his thesis. Strictly speaking, the respondent must reply with “yes” or “no”. But he can also object to

¹⁴ Ἡ μὲν πρόθεσις τῆς πραγματείας μέθοδον εὑρεῖν ἀφ’ ἧς δυνησόμεθα συλλογίζεσθαι περὶ παντὸς τοῦ προτεθέντος προβλήματος ἐξ ἐνδόξων, καὶ αὐτοὶ λόγον ὑπέχοντες μηθὲν ἐροῦμεν ὑπεναντίον, *Top.* A 1.100a18-21 (for a textual problem see Appendix A).

¹⁵ *Top.* Θ 14.163b3-4: “we must argue against ourselves, if we have no one else with whom to argue” (cf. Θ 1.156b18 αὐτῷ ἑνστασιν φέρειν and 9, 160b14-16).

¹⁶ They are always operative in conjunction with the *topoi* (above n.5). For the present investigation this implies that the analysis of an argument in terms of applied dialectic should strive to indicate which *organon* and, if possible, which *topos* are behind its tactics.

¹⁷ I adopt (and extend) Galston’s argument (1982: 80f.) who argues that a closer analysis of the task of the respondent will clarify the investigative function of dialectic.

¹⁸ It is important to note that Aristotle sets himself a double objective: he speaks of *sylogizing* and of *upholding an argument*. In fact he is referring to the two participants of the debate (see § 1) and therefore implicitly to asking questions and answering them. The twofold task as described here is also clear from the final passage of the *Soph. El.* (quoted below) and from the brief allusion at *Rhet.* A 1.1354a5 ἐξετάζειν καὶ ὑπέχειν λόγον, where to *test* (ἐξετάζειν), not to *sylogize*, is the mark of dialectic.

obscurities and equivocal expressions (*Top.* Θ 7). He should try not to contradict himself (εἰς ἄδοξον ἀγαγεῖν ἢ ψευδός, 172b18; cf. 173a5-6, 183a27-30) or to end up at the opposite thesis (= the questioner's thesis). Thus the initial thesis (τὸ ἐν ἀρχῇ) can also be the conclusion. Within these constraints the dispute progresses through an interchange of propositions (προτάσεις) laid down by the questioner for the respondent's acceptance and consent. The criteria for acceptance are the clarity and (general) support the propositions have received. As a side-effect both disputants will also familiarize themselves with and sharpen their understanding of reputable opinions.¹⁹

(2) *The respondent.* The respondent, then, must judge the questions put to him and must deal with verbal obscurities,²⁰ cogency and their potential power to refute his own position. He must be on his guard as to what propositions he gives his consent to.²¹ Thus he develops a certain insight into chains of propositions. This effect of the debate is crucial and constitutes the main difference from non-technical discussions. The acquired insight into the implications of propositions endows him with an ability to approach arguments with theoretical imagination and critical force.

The role of the respondent opens the way towards the application of dialectic in investigation.²² The gymnastic debate will not merely lead to a wealth of information on reputable opinions, semantics or experience in standardised arguments, but more importantly to obtaining a mental ability (*dynamis*, 164b1-5) to judge questions and propositions on their logical implications. The respondent must foresee (προορᾶν, 157b26, 160a13) the necessary implications of his opponent's questions.²³ This entails judging the connections between propositions in order to avoid refutation. In other words, the respondent will expose the falseness in the syllogisms.²⁴ He is able to distinguish

¹⁹ There existed lists of opinions of the most famous philosophers (cf. *Top.* A 14 and above Ch. 1, n.14).

²⁰ See esp. *Soph.El.* 1, 164b25 f.; 7, 169a23-b17; 10, 170b12 ff.; 17, 175b30.

²¹ δίδομαι/ συγχωρεῖν. Aristotle considered the elaboration of the task of the answerer as his special contribution to the theory of dialectic, because nothing had been passed down from previous times (οὐδὲν ἔχομεν παραδεδομένον; cf. *Top.* Θ 5.159a32 ff.). It shows in the important responsibility of the task of the answerer (*Top.* Θ 11.161b15 ff., *Soph.El.* 183b6-8). Cf. Galston (1982) 83 n.15.

²² Galston (1982) 85 ff.

²³ See *Top.* Θ 14.163a36-b16, esp. b9-12 (quoted below n. 26), cf. *Soph.El.* 174b5-7.

²⁴ Galston (1982) 86.

real from apparent refutations and so to separate true from false dialectical solution.²⁵ In doing so the dialectician comes “close to seeing what is true”.²⁶ Thus we find that dialectic first and foremost aims at acquiring insight into “refutation and avoiding refutation” and is therefore “primarily concerned with *logical consistency*”.²⁷ But as to the element of *pros heteron*, the debate does of course proceed between disputants, but on paper rather than in personal contest. In a way Aristotle had to speak for both parties and that is just the task dialectical training provided a suitable instrument for.²⁸

(3) *Dialectic and philosophy*. That the philosopher’s task and that of the dialectician are related is an assumption underlying many of Aristotle’s remarks. In numerous passages Aristotle hints at the investigative role of the dialectician.²⁹

The most straightforward statement which leaves no doubt about Aristotle’s view of the value of dialectic is given at *Top.* Θ 14.163a36-b4, b9-16.³⁰ He describes the task of both disputants.

In dealing with any thesis we must examine the arguments both for and against, and having discovered it we must immediately seek the solution; for the result will be that we will have trained ourselves at the same time both for question and for answer. If we have no one else with whom to argue, we must do so with ourselves. [...] Moreover, as contributing to *knowledge and to philosophic wisdom (phronêsis)* the power of

²⁵ Cf. *Soph.El.* 24, 179b23 where the refutation is called a ‘solution’ (λύσις). Knowledge of real refutation therefore implies knowledge of real proof (see also *Rhet.* 1355b15-18 and next note).

²⁶ *Soph.El.* 7, 169a30-33; cf. *Top.* Θ 2.157a25-29, cf. Galston (1982) 89. [cf. *Top.* A 1, level 2] On ‘coming near the truth’, see next n.

²⁷ Galston (1982) 85. *Pace* Solmsen (1968) 67 and Kapp (1931) col. 1056.66-68, who hold that dialectic should always involve two persons, I would point to the stage of self-refutation (preparation, *Top.* Θ 1) and the fact that the roles of the debate are switched (*Top.* Θ 5.159a33-35; cf. above n. 16]; *Soph.El.* 169b1-2), so that the philosopher can slip into either role and profit from his dialectical training. The method of arguing *pro* and *contra* thus materializes as an argument from within and from without someone’s theory (see next note). Dialectic described (exclusively) as a κοινὸν ἔργον or as an activity πρὸς ἕτερον (e.g. *Top.* Θ 11.161a20-21; 37-39; cf. 155b10-11) refers to the first (training) and second function (debate) only.

²⁸ ‘Impersonating’ other thinkers is part of the dialectical training, see *Top.* Θ 5.159b30-33. This aspect in a sense enhances the ‘objective approach’ towards a thinker by the attempt to meet him on his own terms.

²⁹ E.g. at *Top.* Δ 1.120b12-14; *Top.* Θ 5.159a35-38; *Soph.El.* 34, *Soph. El.* 7, 169a36 ff.

³⁰ Esp. b9-12 πρὸς τε γνῶσιν καὶ τὴν κατὰ φιλοσοφίαν φρόνησιν τὸ δύνασθαι συνορᾶν καὶ συνεωρακέναι τὰ ἄφ’ ἑκατέρας συμβαίνοντα τῆς ὑποθέσεως οὐ μικρὸν ὄργανον. Cf. Beriger (1989) 74 f. and next note.

discerning and having perceived the results [τὰ συμβαίνοντα] of either of two hypotheses is no mean instrument; for then it only remains to choose the true and avoid the false. (Rev. Oxf. Tr.)

The kinship of dialectic with philosophy is illustrated by the emphasis on its importance for the acquisition of knowledge. Furthermore, the passage connects the aspects of anticipating implications of hypotheses, knowledge (γνῶσις) and the required talent for making the right choices. This passage not only shows close links with the goal stated at the beginning of the treatise (twofold task, avoiding contradictory argument, *Top.* A.1), but at the same time states that weighing *pro* and *contra* of the consequences (*loc. cit.*, cf. *Soph.El.* 174b5-7) of an hypothesis has great value for philosophical wisdom.³¹ This is crucial to the evaluation of propositions; against the backdrop of their consequences the task of choosing the right one is made easier. In this way impossible implications and contradictory elements in a theory (a construct of related propositions) are detected and can enhance our understanding of the clarifying force of the theory.³²

A further interesting point in the passage just quoted (but left out above) concerns the advice to look for many arguments referring to the same issue (163b4-9):

Also one must choose arguments relating to the same thesis and compare them; for this procedure supplies an abundance of material for carrying the position by force and is very helpful in refutation, when one has plenty of arguments both for and against. For the result is that one is put on one's guard against contrary arguments.

This shows that the accumulation of arguments concerned with the same problem (often found in Aristotle's discussions³³) evolved naturally out of this practice of preparation. It may also explain why we often find 'conglomerates' of arguments of different quality and impact where one (good) argument would be sufficient.

³¹ Cf. *Soph.El.* 169a30-34: knowing what things belong to the same and what to different categories brings us "near to seeing the truth" (ἐγγύς ἐστι τοῦ θεωρεῖν τὰληθές). Cf. Düring (1966) 170 n.115.

³² That making the right choice is not strictly the task (or ability) of the dialectician does not detract from its value as a heuristic device. The moment of choice resembles a judge's task, see Alex. In *Top.* 28.24-29.3 Wallies and compare Aristotle, *De respir.* (1), 470b11-12.

³³ See e.g. Moraux *Du ciel* (Budé, 1965) who speaks of "démonstrations doubles" (p. cxxi) and "richesse de preuves" (p. cxxv).

To sum up. Although dialectic is critical, or negative in form, this does not mean that it is negative in its motives. It is a sound and coherent method which is useful for scientific work, and leads up to choices, without actually making them. Thus we see that dialectic does not prove anything in the strict sense. In the end its philosophical value (as distinct from petty logic or eristic) seems to be not a question of method but rather one of morals: he who employs an argument wrongly is to blame, not the argument itself. By describing and defining the method in detail, Aristotle has demarcated even more distinctly the boundaries between method and user. As a result, a correct application of the method has gained in clarity, because bad rules are distinguished from bad use.³⁴

1.2. Endoxa

The term *endoxa* is commonly translated as “generally accepted views”.³⁵ It refers to specific *doxai* thought of highly within certain circles. This connection with *doxa* caused much confusion over the value of dialectic as a whole.³⁶ Within Aristotle’s doctrine of knowledge based on sense perception *doxa* has a relatively firm place as compared to Plato. In Aristotle’s view, opinions can be true or false (or a mixture of both). In the course of *Top.* A the general description of the special classes of *doxai* gain in substance.

In a dialectical exercise the *endoxic* character of a proposition is an important criterion for the respondent if he is to accept it (*Top.* Θ 5). The *endoxa* which may be used (see *Top.* A 10 and 14) range from views supported by all men or a majority or some wise men and views similar to these in negative form, to views coming from the arts (104a15). In all these classes the element of support and authority is crucial. Regarding the wise men Aristotle rejects the exclusion of paradoxical propositions and permits that one may choose a paradoxical

³⁴ Aristotle clearly distinguishes an argument against a thesis from an argument against the *defender* of the thesis (*Top.* Θ 11.161a1-23, esp. 21-23; cf. 161b5-7, 162b16).

³⁵ The mark of a dialectical discussion is the term *δοκεῖ*, as was pointed out long ago in the field of ethics. See J. Burnet, *The Ethics of Aristotle* (1904) xl-xlvi. In this field dialectic has received considerable attention, see for further literature Barnes (1980) 494 n.7, Irwin (1981) 195 n. 3, and *id.* (1988) bibliogr.

³⁶ The term *endoxa*, although clearly cognate with *doxa*, is also distinct from it. Weil (1975: 97 and n.11) opted for a more correct interpretation of *doxa*, an important concept that came under suspicion in Plato’s theory of knowledge and dialectic.

thesis. A paradoxical *thesis* (104b20f.) is a kind of *problēma* which either (a) states a conception (*hypolēpsis*) that is contrary to general opinion but is propounded by someone famous as a philosopher, e.g. “contradiction is impossible” (Antisthenes); or (b) concerns matters about which we hold a reasoned view contrary to received opinions, since such a view “even if it is not acceptable to some people, might be accepted on the grounds that it is reasonable” (*dia to logon echein*, 104b26 ff.).

Further understanding of the *endoxa* can be obtained by examining the distinctions between *endoxa-adoxa* and *adoxa/paradoxa*. The opposites *doxa* and *epistēmē* differ considerably from the pair *endoxa* – *adoxa/paradoxa*.³⁷ Aristotle speaks e.g. of a *thesis adoxos*, a “thesis not accepted” because it entails absurd consequences (*Top.* Θ 9.160b17). Such a thesis should be avoided. On the other hand, *adoxa* are mostly views of children, fools and the masses (*hoi polloi*, e.g. *EE* 1214b28-1215a7). These may be regarded as views which are ill-founded or simply stupid and would certainly not survive critical scrutiny. We should, however, distinguish these from *paradoxa*, the ‘paradoxical’ views. Although they are called thus because they depart from (παρὰ-) the well-known path of current views (the views of the majority), this is no reason to distrust them in advance; there is a possibility that they are true.³⁸ If they have a justification (*logos*) they may still be examined. It is clear that the *endoxa* represent accepted or reputable opinions³⁹ backed up, as it were, by the authority either of all people, a majority or of experts who are famous and reputable.

Aristotle was convinced that an opinion shared by all men (τὰ πᾶσιν δοκοῦντα) was beyond challenge and so true.⁴⁰ His respect for

³⁷ Weil (1975) 97 with n.11; Weil gives two previous studies (Hamélin, 1920 and Régis, 1935) due credit for showing the importance of *doxa* in Aristotle’s system, but points out that they failed to give sufficient attention to the *difference* between *doxa* and *endoxon* (p. 95, n.9).

³⁸ Α πρότασις παράδοχος is defined as ἐναντίον ταῖς τῶν πολλῶν δόξαις, *Top.* A 10.104a12; [for θέσις, cf. 104b19 f., *Soph.El.* 159a39, 163b18; for παράδοχος, 173a7]. In his verdict on opinions Aristotle has a preference for specific vocabulary which also fits in with the dialectical demand of consistency and logical dependence, e.g. ἄλογος, εὐλογος, ἄτοπος, οὐκ ἄλογος.

³⁹ Although the translation by Evans “qualified opinions” (1977: 78 and 80-83) is attractive, it does not comprise all the aspects involved. With “qualified” Evans correctly means “qualified by reference to some person”, but also “from experience”, as in 104a15, 33-37; 104b19-28. Cf. Barnes’ translation “reputable” (Rev. Oxf. Tr.). The specific mark of a dialectical discussion is δοκεῖ, see above n. 31.

⁴⁰ Cf. Owen (1961) 117, referring to *EN* 1173a1 (compare 1143b11-14; 1153b27 f., *De caelo* 290a12).

experienced or wise men is equally high, whereas views of the many (*hoi polloi*) often lack (critical) insight.⁴¹ He did not think of opinion as suspect, if supported by a majority or by tradition or by some other kind of authority.⁴² Of course, no judgement as to whether they are true or not is given here. *Endoxa* too are “a mixed bag of truth and falsehood”.⁴³

This puts the dialectical inquiry into first principles within the realm of opinion. The scrutiny of possible solutions takes place between the extremes of views representing general agreement or utter disagreement and aims at deciding among the many different views that exist or may be formulated. Aristotle’s particular concern with problematic issues, which mirror the opposition of views (disagreement), also suggests that, in general, agreement is what he accepted as an indication for truth.⁴⁴ Consequently he undertook to examine all relevant⁴⁵ views existing on a subject, however contradictory, and to consider the possibility of alternatives or a compromise.

1.3. *Conclusion: Critical Endoxography*

As a first step towards understanding Theophrastus’ methodology we have studied Aristotle’s concept of dialectic. Without going into too much technical detail of the *Topics* we have focused on how the investigative side of the dialectical *gymnasia* develops into a philosophical tool. As such it is useful for all disciplines which are unable to investigate their *archai* themselves. Aristotle is looking for a starting-point which needs no further justification. *Endoxa* can play the role of starting-point in a preliminary phase, because they provide the philosopher with a position from which to argue. The use of *endoxa* must be seen against

⁴¹ Cf. *Soph. El.* 173a29-31 ὁ μὲν γὰρ νόμος δόξα τῶν πολλῶν, οἱ δὲ σοφοὶ κατὰ φύσιν καὶ κατ’ ἀλήθειαν λέγουσιν.

⁴² The support for an opinion is taken by Aristotle as being an indication for its truthfulness. Compare De Pater (1965: 76) who takes *endoxon* as “indice non-véifié de la vérité”. See also *Rhet.* 1355a14-18 for their relation to truth (ἀληθεία).

⁴³ Galston (1982) 87. As Alexander explains (*In Top.* 19.22 ff. Wallies) διαφέρει δὲ τὸ ἔνδοξον τοῦ ἀληθοῦς οὐ τῷ ψευδὲς εἶναι (ἔστι γὰρ τινα ἔνδοξα καὶ ἀληθῆ) ἀλλὰ τῇ ἐπικρίσει. ἔστι γὰρ τῷ μὲν ἀληθεῖ ἀπὸ τοῦ πράγματος, περὶ οὗ ἔστιν, ἢ ἐπικρίσις· ὅταν γὰρ τοῦτο αὐτῷ ὁμολογῇ, τότε ἔστιν ἀληθές. Cf. *ibid.* 6.14-15 Wallies.

⁴⁴ Compare the definition of *aporia* in *Top.* 145b18-20 where the mental block illustrates the psychological aspect of judging opposed views.

⁴⁵ Except those self-evident or of just anyone (*Top.* 104a3 ff.). As Moraux put it (1968: 293): “c’est une argumentation axée sur l’ἔνδοξον et l’ἄδοξον”.

the background of the *argumentum e consensu (omnium)*, preventing a *regressus* of hypotheses and solutions. This implies a strong position for opinion based on a general respect for transmitted ideas.⁴⁶ It was the merit of Owen to have pointed out that in physics Aristotle sometimes understood the *phainomena* in a specific sense, that is to say as including the *legomena*, “what has been said on the subject”.⁴⁷ Any inquiry can be based on *endoxa*, since they are part of *ta legomena*. As we will see, Theophrastus uses the dialectical method in much the same way. One could say that this method of *critical endoxography* illustrates that Aristotle was working out a procedure that left many points open (see 2.2). But the means and intentions he described foreshadow the new trends of later historical studies and doxographic compilations.

Aristotle’s different options for applied dialectic (*Top.* A.2) were *gymnasia* (1), everyday discussions (2), philosophy (3.a), and the search for *archai* in all fields of investigation (3.b). The foregoing analysis has shown that our provisional description of dialectic (p. 33) still stands on the condition that it is realised it has a wider and a narrower sense. The first would refer to the habit of using *endoxa* within a systematic discussion (usage ‘3.a’), whereas the second sense would refer to the peculiar search for *archai* (usage ‘3.b’) *via* an overview of reputable views on the subject at issue. The selection and critical evaluation of authoritative opinions consists of several steps which ultimately lead to the truth. It is therefore quite possible to say that Aristotle had sketched a research method of first principles which in a general sense comes close to a ‘Wissenschaftslehre’. It is on the basis of this interpretation that we see how the dialectical method stands at the crossroads of Peripatetic philosophy and ‘doxography’.⁴⁸

2. *Applied Dialectic or Dealing with Doxai*

Aristotle’s applied dialectic goes beyond what we have found in the *Topics*. This underlines the difference of theory (or *gymnasia*) and practice. Not all *topoi* are useful for everyday discussion, let alone real

⁴⁶ Cf. Barnes (1980) 501f. See also next note.

⁴⁷ Owen (1968) 114f. For some useful adjustments see Nussbaum (1986) 244 ff.

⁴⁸ Irwin’s distinction (1988) between “strong dialectic” and “pure dialectic” (19 ff., 116) is less appropriate because it does not take its cue from Aristotle. It has been strongly criticised, see e.g. D.W. Hamlyn, *Philosophy* 65 (1990) 465-476, R. Wardy, *Phronesis* 26 (1991) 86-106.

philosophical enquiry. This also becomes apparent from the smaller number of *topoi* in *Rhet. B* which were applied in practice (with many parallels in the *Top.*⁴⁹). The method of *diaeresis* becomes a much used tool for structuring the discussion of *doxai*. It underlies the analyses of the *topoi* and is very different from the (Platonic) *diaeresis* of concepts. Together with certain types of questions the *diaeresis* has had a major influence on later doxographies.⁵⁰ In the present section some examples of applied dialectic are mentioned in the light of the mandate of *Top. A 2*. The dialectical procedure of opening up a subject by discursively looking for starting-points — whether physical, conceptual or ‘propositional’ — is often found in Aristotle. In practice a *problēma* can be used to state an issue more clearly or to solve an intermediary question.

The procedure is based on *endoxa*, essentially raises objections⁵¹ and tries to solve puzzles (*diaporēsai*). Arguably, the aporetic approach is a remnant of the dialectical question-and-answer training. When Aristotle takes up the aspect of arguing from two sides (“... being able to evaluate the problems in both directions it will be easier for us to see in each case *what is true and what is not*”, *Top.* 101a35-36; cf. Ch. 2.1), the boundary between dialectic and scientific argument becomes extremely thin. We may even say that dialectic is scientific, though not demonstrative. Aristotle believed mankind will always be led to the truth by reality itself; equally it is only a matter of time before one reaches genuine principles. By making good use of what has been said already one is given direction and clues for finding the missing pieces of the puzzle (*Metaph.* B 1; cf. *Caelo* A 10; *Pol.* B 5; H 10).

Aristotle’s approach towards previous views has been labelled differently in different periods.⁵² In the following subsections I will deal briefly with a paradigm case of a dialectical discussion (*Phys.* Δ). Several other examples will illustrate the diversity of argumentative forms and the unity of their functions. The present section as a whole is necessarily selective, our aim being to give a summary rather than a full survey of the debate on applied dialectic in Aristotle.

⁴⁹ See G.P. Palmer (1934), with many examples from the *Topics*.

⁵⁰ See Solmsen (1968) 61; Mansfeld (1990b) *passim*; *id.* (1992a) Appendix.

⁵¹ Cf. *Rhet.* B 26.1403a30-33, quoted below n. 73.

⁵² But whether his method was ‘historical’, ‘dialectical’, or ‘doxographical’ is not our main concern here. See my remarks in Baltussen (1996) 334-7.

2.1. *Phys.* Δ

In his discussion of place (*Phys.* Δ 1-5) Aristotle presents an exemplary case of a dialectical inquiry, above all because he explicitly comments on the procedure he is to follow.⁵³ Aristotle enumerates four conditions for such an inquiry (211a7-11): it should provide a definition, account for apparent facts, solve the *aporiai*, and explain the difficulties inherent in the subject. The discussion of *topos* at *Phys.* Δ does all this: starting from common usage “only the concept of place as a boundary of the surrounding body survives”.⁵⁴ Furthermore, the *aporiai* which cannot be solved are sifted out from those that can, solubility being a criterion (or indication) for preferable answers. In addition, some of the apparent facts do not survive the dialectical scrutiny in the light of physical or logical arguments. Finally, Aristotle explains the difficulties, that is to say provides a reason, as at 212a7-14 where he sets off his own concept of place against the candidates he rejects.

Aristotle aims at clarifying common notions of place⁵⁵ by evaluating the *aporiai* which he thinks the earlier views on the data produce. He deals with the apparent facts as well as the things said about them (*ta legomena*). The passage thus beautifully illustrates the stages of dialectical inquiry and different types of argument (logical, physical) employed in it.

The four demands described here are also found in the more programmatic passages in the *Topics*. (i) The use of *endoxa* as an appeal to authority and a starting-point for further clarification of as yet inarticulate data has already been discussed. (ii) The role of definition is central to the *Topics* as a whole, as it is in Aristotle’s theory of

⁵³ For the analysis of the *Physics* passage we can draw on a detailed discussion in the recent study by K. A. Algra (1995). I here summarize the argument from Algra (1995) 153-181, esp. 170 ff. For other recent discussions of applied dialectic see e.g. Schickert (1977) 63 ff., Morsink (1982a), Beriger (1989) 81 ff., Cleary (1993). In the other passage discussed by Algra (*EN* 1145b) the position of the first principles (*archai*) is clarified. It strongly resembles the statement in *Top.* 101a35-b4 with the advice to conduct the inquiry into principles on the basis of *endoxa*. I shall return to this passage later (see Ch. 5.3). As we saw (2.1) there are other passages containing explicit remarks useful for understanding the dialectical procedures.

⁵⁴ Algra, 178.

⁵⁵ Using his own concepts of matter and form. In this he sticks to his own advice (*Top.* 110a16-19) to “follow the masses in the nomenclature which one uses for things, but one should not follow them over what sort of things are and what are not of the kind in question” (tr. Evans, 1977: 25, n. 66)

scientific method.⁵⁶ (iii) The (di)aporetic approach of going over puzzles and trying to solve them was mentioned with reference to *Metaph.* B, which boasts a justification of the procedure. We have also discussed the evaluative objective of dialectical procedures, which in a way amounts to the following up of implications. (iv) Last but not least, providing a reason for the difficulties is what makes dialectic a real *technê* (*Rhet.* 1354a9-11), thus raising it above the level of everyday debate and eristic argument.

For our purposes we should therefore also attempt to find indications for argumentative approaches as advocated in the *Topics*. Dialectical treatments are also found in e.g. the well-known *archai* discussions from the opening books of the *De anima*, the *Metaphysics* and the *Physics*. We may briefly look at the *De anima* (henceforth *De an.*) which has been less studied; it also has a thematic kinship with the *DS* and offers interesting information on the choice, presentation and justification of the *endoxa*.

2.2. *The Search for Archai*

The opening books of the *De anima*, the *Metaphysics* and the *Physics* have much in common. Aristotle is explicitly conducting a preliminary investigation into *archai* ('narrow type' of dialectic) and the discussion is embedded in a systematic treatment of Aristotle's own doctrine. For our purposes it will be useful to focus on three aspects, viz. how they are (1) introduced, (2) classified and (3) examined.⁵⁷

At the start of the overviews of both the *De an.* A.2 and *Metaph.* A.3 Aristotle states that a preliminary overview of *doxai* is mandatory.⁵⁸ In

⁵⁶ See *Top.* Z 14.151b18-22, on making a definition oneself in preparing for debate. Cf. *APost* B. 8-10 and LeBlond (1975), Bolton (1978).

⁵⁷ All three passages are discussed in Mansfeld (1986a) with regard to the provenance of collections of 'related views' in Plato and Aristotle.

⁵⁸ *De an.* A 2.403b20-24 (quoted in the next note), similarly in *Metaph.* A 3 (*Phys.* A 2 is not explicit). But compare e.g. *Meteor.* 342b25-27 *περὶ δὲ τῶν κομητῶν καὶ τοῦ καλουμένου γάλακτος λέγωμεν, διαπορήσαντες πρὸς τὰ παρὰ τῶν ἄλλων εἰρημένα πρῶτον; ibid.* 345a13 *προδιέλθωμεν δὲ καὶ περὶ τούτου τὰ παρὰ τῶν ἄλλων εἰρημένα πρῶτον;* also *De resp.* 474a13 f., *Metaph.* 1059a19-20. The programmatic 'slogans' Aristotle sometimes utters ('taking a new start', 'first the primary things') are not always followed up by himself in the treatise where they are expressed. See Quandt *CLAnt* ii (1983b) 279-298 who gives a well-balanced exploration of the problem of program *versus* practice.

De an. A.2 Aristotle begins by stating that it is *necessary* (ἀναγκαῖον) to *combine* the solving of the problem which one examines with an additional survey of the views of earlier thinkers. In doing so (cf. 403b23-24) he emphasizes “those statements well put, whereas (we must) guard ourselves against those not well put”.⁵⁹ There are lessons to be learned from the transmitted views, and Aristotle is willing to take note of them. The point that views should be “well said” (καλῶς εἰρημένα) entails proper *formulation*, a significant aspect in giving a good definition. In *Metaph.* A.3 the same idea is expressed in slightly different words:

let us call to our aid those who have attacked the investigation of being and philosophized about the reality before us. For obviously they too speak of certain principles and causes; to go over their views, then, will be of profit to the present inquiry, *for we will either find another kind of cause, or be more convinced of the correctness of those which we now maintain*.⁶⁰

The phrase “*certain* principles and causes” (ἀρχάς τινὰς καὶ αἰτίας) already indicates an interpretative effort on Aristotle’s behalf. We should also note the appeal to authority as well as to the majority (or even a complete consensus⁶¹) which may confirm one’s own results. Aristotle does not, however, speak of *aporiai*, but only of the causes suggested: what he means here (as in the *De an.*) is the *number* of causes, as becomes clear from his subsequent discussion. In *Phys.* A the views mentioned are brought in as examples of suggested explanations and

⁵⁹ *De an.* 403b20-25 Ἐπισκοποῦντας δὲ περὶ ψυχῆς ἀναγκαῖον ἅμα διαποροῦντας περὶ ὧν εὐπορεῖν δεῖ προελθόντας, τὰς τῶν προτέρων δόξας συμπαρалаλαμβάνειν ὅσοι τι περὶ αὐτῆς ἀπεφώναντο, ὅπως τὰ μὲν καλῶς εἰρημένα λάβωμεν, εἰ δέ τι μὴ καλῶς, τοῦτ’ εὐλαβηθῶμεν. ἀρχὴ δὲ τῆς ζητήσεως προθέσθαι τὰ μάλιστα δοκοῦνθ’ ὑπάρχειν αὐτῇ κατὰ φύσιν. One indication, however, that his own explorations are not isolated attempts appears before A 2: already at A 1.402b3 he alludes to “those who investigate and discuss the soul”, adding a criticism on their limited point of view.

⁶⁰ *Metaph.* A 3.983a32-b5 (Rev. Oxf. Transl.; italics mine). The overview is explicitly concluded at *Metaph.* A 7 and described as a “summary of views of those who spoke about the principles and the truth and how (they did this)”. Aristotle adds what result has emerged from it, *viz.* confirmation of the types and number of the *archai*. In *Phys.* A Aristotle’s treatment is more implicitly dialectical, but no doubt the elements of consensus, authority and (intellectual) development play a part in it.

⁶¹ The ‘majority principle’ is seen at work *passim* in Aristotle’s works in particular with reference to the first principles (e.g. περὶ τὰς ἀρχάς, τὰ καλούμενα ὑπὸ τινων στοιχεῖα· ταῦτα δὲ πάντες ἐνυπάρχοντα τοῖς συνθέτοις τιθέασιν at *Metaph.* 1059b22-24; πάντες δὲ ποιοῦσιν τὰς ἀρχὰς ἐναντίας at *Metaph.* 1087a29-30; *Phys.* 188a19, b26 etc.). In a different guise it is found at *Met.* Γ 5.1009b2-6 and *Phys.* 213a20 ff.

causes⁶², they do not receive treatment separately from the argument but become intertwined with it.

A second aspect of the treatment of the *endoxa* is their classification. Aristotle uses different criteria to take stock of the existing views on principles. He may consider the number and kinds of causes suggested (*De an.* 404b30 ff.), or the disagreement about them (cf. *GC* 323b16) or both (*Metaph.* A 3.983b1-5, b19). It is clear that accepting the need for reviewing previous views implies a certain degree of exegesis. This is done by first mapping out the existing views in the form of a division or classification and next by evaluating these on their merits. Needless to say, a division presupposes interpretation in that it arranges certain views into groups on account of specific characteristics.

The discussion of *archai* (and *endoxa*) is introduced in different ways. In particular the *disagreement* on the number of *archai* is emphasized and dealt with from different angles. In *Phys.* A Aristotle seems determined to prove that the number he himself has chosen (three) is the right one.⁶³ The discussion has been suitably characterized by J. Mansfeld:

Aristotle's analysis consists of three steps: (1) the *dihaeresis* of the mostly corporeal principles of the ancients; (2) the reinterpretation of this material in terms of polar forces etc.; (3) and finally the argument in favour of the triad privation, form, substrate.⁶⁴

In the *De an.* 404b30 ff. a related passage discusses the *archai* by way of two divisions:

There are differences of opinion (διαφέρονται) as to the nature and number of the ultimate principles, especially between those thinkers who make the principles corporeal and those who make them incorporeal.

The all-embracing discussion of the possibilities — starting at the most general level and gradually rejecting the less convincing options — is based on a *diaeresis* of the *archai* and neatly illustrates the comprehensiveness of the argument: in part negatively by excluding (theoretically) possible principles, in part positively by incorporating useful elements. The remaining *archai* are then accepted because of their

⁶² They are almost without exception introduced by ὡς/ὥσπερ (184b16 and 17; 187a16, 21, 22 etc.). Note that in *Phys.* A, 187a12 not the *physikoi* but their methods (τρόποι) are the main elements of the *diaeresis*.

⁶³ Cf. Ar. *Metaph.* 1070b17-19 πάντων δὲ οὕτω μὲν εἰπεῖν οὐκ ἔστιν, τῷ ἀνάλογον δέ, ὥσπερ εἴ τις εἴποι ὅτι ἀρχαὶ εἰσὶ τρεῖς, τὸ εἶδος καὶ ἡ στέρησις καὶ ἡ ὕλη.

⁶⁴ Mansfeld (1986a) 10. Cf. *id.* (1990) *passim*.

superiority to others.⁶⁵ In the *Metaph.* the appeal to authoritative views ('*endoxic* confirmation') takes its starting-point in the opening sentence that "all people by nature desire knowledge" (A.1). and switches to the views of *sophoi*, experts, who are particularly knowledgeable in these matters. First the majority of "those who philosophize" (983b7) is mentioned, because they managed to find a material cause (in some way or other, τὰς ἐν ὕλης εἶδει ... ἀρχὰς). Gradually the individual thinkers of repute are listed and their views described (*Metaph.* A.3-6). They are mentioned according to the number of causes as well as the 'sophistication' of their reasoning in favour of these (by Aristotelian standards, of course): one, two or three principles are found in their theories (against four which Aristotle has defined himself).

Before we deal with some typical examples of the third aspect of the treatment of the *endoxa*, viz. Aristotle's diaporetic evaluation by discovering and solving difficulties, a few remarks on his 'exegetical method' are in order. A number of scattered remarks put us in a position to say something about Aristotle's views on exegesis. (I take the term in a quite general sense to refer to the way in which he tries to understand his predecessors.) 'Scholarly exegesis' was at that time very much in the making — an implicit method gradually developing into a more systematic procedure of commenting on the work of others.⁶⁶ For instance, Aristotle states that not all views should be evaluated in the same way (*Metaph.* 1009a16). Despite the importance of terminological matters ('literalism'), it is at times preferable to counter views according to their intended meaning (διόνοια) rather than their expressed argument (*ibid.* a20; cf. *De an.* 405b22-3). In this way Aristotle justifies handling more freely the views under discussion, without necessarily implying an intention of distorting the views. He rather exhibits the awareness of their inadequate way of expressing their thoughts (an awareness, I would like to think, which was enhanced by the use of writing). He also employs the distinction between implicit and explicit forms of explanation, thus sometimes expanding the scope of a theory beyond its conceptual framework, e.g.

⁶⁵ This squares well with the programmatic 'rule' (see above n. 58, Quandt 1983b). In *Met.* A Aristotle looks for confirmation of his own fourfold scheme of metaphysical principles (matter, form, motive cause, end). The classification is according to the number of principles. An additional aspect is the division into 'schools', but this is not a dominant theme.

⁶⁶ On exegesis in antiquity see e.g. Hadot (1987). On the form of comments see Ch. 4 regarding Plato's *Timaeus*.

when he states: “the old philosophers also *in effect* (ἐργῶ) testify to this, for it was of substance that they sought the principles and elements and causes” (1069a24-25). Interpretation also entails finding the error in the other person’s reasoning: thus we see Aristotle trying to find out what was (or could be) the meaning of their utterances, often by suggesting what presuppositions lay at the basis of their argument.⁶⁷ This illustrates the technical nature of dialectic, since a *technê* should be able to indicate the cause, i.e. explain what the mistake is (*Top.* Θ 10.160b23f., cf. *Rhet.* 1355a8 ff., *Metaph.* 981a5 ff.).

In evaluating the views important criteria for Aristotle’s (negative) judgment are clarity, completeness, and consistency.⁶⁸ On the clarity principle more will be said later. For the second point we may adduce a good instance at *GC* A 7-8 where Aristotle investigates certain views in relation to the completeness of the suggested solutions. He states that his predecessors have only managed to formulate part of the solution (323b15 ff.). This he even regards as the reason for their being in conflict with each other (b16). He also may comment on the gaps in an individual theory (indicated with *apoleipein*), which illustrates the conceptual and factual gap between his own theory and that of his predecessors.

Further criteria become clear from other remarks. A proof should show that no impossible things result (*Phys.* 242b54-5 τὸ μῆδεν δεῖκνυσθαι ἀδύνατον). Thus at *Phys.* 185a27 he objects that previous suggestions exhibit too great a variety and are “untenable” (ἀδύνατα λέγεσθαι).⁶⁹ Furthermore, it is essential to have an eye for problematic points: handling problems presupposes *discovering* problems, something not everyone is capable of. Aristotle calls such a lack a serious handicap (e.g. *Metaph.* Α 10.1075a25-7; cf. 1091a30). These aspects give us some idea of Aristotle’s methods in criticizing earlier theories.

The terminology of the dialectical discussions is more technical in *Phys.* A 2-3 than in the other introductions, and for a good reason. Aristotle points to the fact that Melissus and Parmenides overlooked terminological difficulties (πολλαχῶς λέγεται τὸ ὄν, 185a21), started from false premisses (185a9) and used arguments which are eristic

⁶⁷ E.g. his analysis of Thales’ principle in *Met.* A 3, on which see Mansfeld (1985) 109 ff. But he also dealt with punctuation (on Heraclitus, see Hadot, 1987: 19).

⁶⁸ Among the “patterns of organization in Aristotle” the clarity principle is described by Mansfeld (1986a) 20-23.

⁶⁹ A suggestion close to that in *Soph. El.* 12, 172b29 ff.

(186a6) and inconclusive (185a10). He clarifies these difficulties to his own satisfaction (186b6 ff.) using concepts and terms familiar from the *Topics*.⁷⁰ His evaluation is in fact an exact application of the way in which he proposes to solve *enthymēmata* ('rhetorical syllogisms'). At *Rhet.* B 26 he defines the *enstasis* (objection), with reference to the *Topics*, as follows: "the objection ... is, as in the *Topics*, the stating of a view on the basis of which it will be clear that one has reasoned inconclusively or taken a wrong assumption".⁷¹ The division into "inconclusive" and "a wrong assumption" matches the approach of the *Physics* passage. The reference to the *Topics* is one of many instances in which the two fields are drawn closer together. We should not forget that in their fault-finding capacity rhetorical and dialectical techniques are parallel. An important passage in the *Rhetoric* indicates how dialectical moves can be geared to find *archai* within a philosophical inquiry (*ibid.* 21-26):

these [general commonplaces] have no special subject-matter, and will therefore not increase our knowledge of any particular class of things (*genos*). On the other hand, the better the selection one makes of propositions suitable for special commonplaces the nearer one comes, unconsciously, to setting up a science that is distinct from dialectic and rhetoric. One may succeed in stating the required principles, but one's science will be no longer dialectic or rhetoric, but the science to which the principles thus discovered belong. (Rev. Oxf. Tr.)

In passages such as this we see Aristotle groping to formulate (or indicate) different levels of abstraction.⁷² The formal moves of rhetoric and dialectic can be given substance by dealing with concrete subjects and are turned into a method of reaching starting-points of a scientific discipline which deals with a part of the physical world.

Let us return to the *Phys.* passage: it is significant that Aristotle calls the method of Melissus and Parmenides irrelevant to the study of

⁷⁰ E.g. *Phys.* 185a5-6, πρὸς ἄλλην θέσιν ὅποιανούν διαλέγεσθαι (cf. *Top.* 104b19, 156b5); a8, λύειν λόγον ἐριστικόν (cf. *Soph.El.* 170b4-5); ψευδῇ λαμβάνουσι (cf. *Top.* 162b22, 27-28 and next note); ἐνὸς ἀτόπου δοθέντος τὰ ἄλλα συμβαίνει (cf. *Top.* 140b35, 150a10, 160b17, *Soph.El.* 176a31); *Phys.* 186a2-3 οὐκ ἐνδεχόμενον ταῦτόν ἐν τε καὶ πολλὰ εἶναι, μὴ τάντικείμενα δέ (cf. *Top.* 135b7, 146a21-27); a6, ἐριστικῶς συλλογίζονται (cf. *Top.* 161a34); a10-11 παραλογίζεται Μέλισσος (cf. *Top.* 101a6, 108a27, 156a29 etc.); a23-24 ἡ λύσις τῇ μὲν ὅτι ψευδῆς (cf. *Top.* 162b2) τῇ δὲ ὅτι οὐ συμπεραίνεται (cf. *Top.* 162b4, 6, 8; *Soph.El.* 178b21).

⁷¹ *Rhet.* 1403a30-33, ἡ δ' ἐνστασις ... καθάπερ ἐν τοῖς Τοπικοῖς, τὸ εἰπεῖν δόξαν τινὰ ἐξ ἧς ἔσται δῆλον ὅτι οὐ συλλελογίσται ἢ ὅτι ψεῦδός τι εἴληφεν (cf. *Top.* 161a1-2).

⁷² See esp. *Top.* Θ 14.163b23 ff. on the advice to learn arguments according to certain *categories* and premisses of a *general application*; cf. 164a3-5 (on which see Ch. 5.4).

nature. His reason for discussing them is that this inquiry has philosophical value (ἔχει γὰρ φιλοσοφίαν ἢ σκέψις, *Phys.* 185a18-20), i.e. stimulates a more theoretical (or logical) approach. The importance of the linguistic side of the debate is clear from the fact that Aristotle has no difficulty in solving the puzzle Melissus' theory presents, because the latter's way of stating things is rather coarse and unrefined, whereas the argument of Parmenides requires a more technical treatment, although the same objections can be urged against it (186a22f.). The way in which Aristotle deals with them is strongly reminiscent of the *Topics* and *Soph.El.*, where the distinction between dialectical and eristic arguments was made and rules for countering them were given.⁷³

Several similar features can be found in the *De an.*⁷⁴ The overview (A 2, *end*) is explicitly marked off from the evaluation (as in the *DS*) and preceded by a set of fundamental questions (which seem to have a rather formal appearance as if derived from a standard list⁷⁵). They pertain to fundamental points of method and to the most important aspects of the subject, e.g. "we must establish first in which of the *genera* [i.e. categories] it belongs and *what it is* (τί ἐστι)".⁷⁶ This question concerns the field of investigation the subject belongs to (physics, ethics, logic), and the formulation of a first (provisional) definition

⁷³ See *Top.* A 1; *Soph.El.* 1, 164a20 ff.; 2, 165b3 ff., but also *Metaph.* Γ 2.1004b25-26 ἡ διαλεκτικὴ πειραστικὴ περὶ ὧν ἡ φιλοσοφία γνωριστικὴ, ἡ δὲ σοφιστικὴ φαινόμενη, οὐσα δ' οὐ. In *Met.* A Aristotle's approach lays more emphasis on problematic aspects of previous theories. Interestingly, his objections are given in separate sections (A 8-10) after the report, which gives a development of the search for *archai*. The nature of the objections is variable, sometimes to the point, sometimes verbal (see Ross *ad* 989a33 [p. 183] etc.). But significantly he sets out by remarking: "in many ways they make mistakes" (ἀμαρτάνουσι, 988b24). Note that he places majority views in opposition to individual ones (989a9-10).

⁷⁴ In what follows I keep to the main line of presentation and argument in A 2-5, building on the comments by Hicks (1907), Schickert (1977) 63 ff., and Mansfeld (1986a) 16 ff.

⁷⁵ E.g. (2) whether the soul belongs to the class of actual or potential existents (the answer to this question, Aristotle emphatically points out, is of the greatest importance), (3) whether it is divisible or without parts, (4) whether it is homogeneous everywhere, (if not whether various in form specifically or generically), (5) on the nature of the definition, should we study the character of the soul in parts or as a whole.

⁷⁶ On the way in which the types of questions give structure to the discussion in Aristotle and how they influenced later doxographies, see Mansfeld (1990b) section XIII and *id.* (1992) 82 ff.

which is rephrased after the evaluation of the traditional views and problems.⁷⁷

In other words, while stating his subject Aristotle sets up a conceptual framework within which the investigation is to take place, indicating at the same time that much of it is tied up with important doctrines to be found in his other treatises (e.g. categories, physics). More questions are put forward, some of which are taken up during his treatment of earlier views (others reappear much later).⁷⁸ Here too the phraseology provides ample indication of a more technical approach. Aristotle's argument starts from *common conceptions* about the soul:

It is held (δοκεῖ) nowadays that that which has soul differs chiefly in two features from that which has no soul, namely motion and sensation (*De an.* 403b25-7).

In the basic division between "that which has soul" and "that which has no soul" Aristotle expresses what the chief distinction is at its most general level. That Aristotle here speaks of two 'aspects' agrees with his later remark at Γ 3.427a17-20, but differs from the provisional conclusion of the overview (A 2.405b10-12, to be discussed below).

However that may be, the division of current opinion is a summary account of the views handed down from the past. The basic *divisio* of things *with* and *without* soul is taken for granted,⁷⁹ and the statement reveals his understanding of the relevant views. Moreover, the next sentence refers to those earlier views, which (according to Aristotle's words) represent the view of his day. In other words, on the face of it, 'tradition' exhibits a continuity which seems to guarantee that this opinion is correct. From this procedure one might argue that the synopsis of views is reached through (some sort of) induction.⁸⁰

⁷⁷ The question is answered at B 1. For a recent analysis of the different definitions of the soul, see Bolton (1978) 267 ff.

⁷⁸ They are dealt with in bks. B-Γ. Cf. Hicks (1907) 183-188; 334, 338 etc.

⁷⁹ It returns in B 2 as one of the few traditional views, as it is a basic Greek idea that life implies soul. The assumption also plays a significant role in the *DS*, see below Ch. 3.1, p. 75 and Ch. 5.3.

⁸⁰ That Aristotle's overviews can be considered in this way was already suggested by Elzinga who in his otherwise idiosyncratic analysis coins the apposite phrase "doxographic induction" (1974: 17). Cf. Krämer (1971) 22 who speaks of "kritische Doxographie", an expression also found in a letter by Hermann Diels to Gomperz dated 3 May 1897, but used in a different context, see Braun-Calder-Ehler (1995) 139.

The reports on the predecessors vary in length and detail and it has been pointed out that the arrangement of views in this part of A 2 seems to originate in systematic collections: “It would appear that Aristotle has attempted to combine approaches that are, ultimately, of different provenance, viz. the division concerned with the number and the nature of the principles assumed, and lists of ‘related’ ideas in the manner of a Hippias”.⁸¹

In a further (sub)division the adherents of one specific feature are grouped together; Aristotle adds his conjectures about what their motives for holding these views might have been. He mentions three groups:

- (1) those who regarded motion as the most important element of the soul (*De an.* 403b29-404b5; the atomists, the Pythagoreans, Anaxagoras).

Aristotle gives a detailed account of their arguments and suppositions (404a8, note ὑπολαμβάνοντες). Possibly from a source close to Democritus’ wording, his account deals with the type of “motes” the soul is made of, and with respiration, which allows the soul to impart movement.⁸² The Pythagoreans, or at least some of them, had a view similar to Democritus’.⁸³ Aristotle emphasizes the general acceptance of the motive force of the soul (“all seem to assume this...”). They too speak of soul as “motes in the air” or of soul being “that which moves these”. Aristotle does not go into their presuppositions as he did with Democritus, but he adds a further thought on what might have been their reason for taking this view that motes always move even when there is perfect calm.⁸⁴ A similar view is attributed to those who say

⁸¹ Mansfeld (1986a) 17. See e.g. 406b15, 17, 26; 408b19.

⁸² The description given seems to include references to his (written?) source (φησίν, 404a1, λέγει, a5; on such references in Theophrastus cf. Ch. 4, n. 10 and Ch. 5, nn. 122, 149). By this description one is reminded of the *periōsis* in Plato’s *Timaeus*, the cyclical process of respiration where air coming in pushes the air outward through the pores of the skin and v.v. (see Ch. 4, p. 112).

⁸³ Aristotle speaks of a statement from the Pythagoreans (τὸ παρὰ τῶν Πυθαγορείων λεγόμενον) which “seems to have the same purport” (ἔοικε ... τὴν αὐτὴν ἔχειν διάνοιαν). No doubt this (interpretative) observation was brought about by a terminological resemblance (note ξύσματα in both reports, 404a3 and 404a18; see next note!).

⁸⁴ Note that the ξύσματα are only mentioned here (cf. Mansfeld, 1986a: 17) and in [Ps.Arist.] *Problem.* 913a9 where the two instances of the *De an.* are echoed in the discussion of the vibrating movement of the “extremity of the shadow caused by the sun” (Διὰ τί τῆς σκιάς τὸ ἄκρον τοῦ ἡλίου τρέμει φαίνεται; οὐ γὰρ δὴ διὰ τὸ φέρεσθαι τὸν ἥλιον· ἀδύνατον γὰρ κινεῖσθαι εἰς τὰναντία, ὁ δὲ τρόμος τοιοῦτος. ἔτι δὲ ἄδηλος ἡ μετάβασις, ὥσπερ καὶ τοῦ ἡλίου αὐτοῦ. ἢ διὰ τὸ κινεῖσθαι τὰ ἐν τῷ ἀέρι; καλεῖται δὲ

that the soul moves itself. He ends this passage with Anaxagoras' view, distinguishing it from that of Democritus and indicating that Anaxagoras failed to clarify the relation of intellect *vs.* mind as adequately as Democritus (404b1). The positive judgement on the important role of *nous* is also found here (*loc. cit.*, cf. *Metaph.* 985a18f.).

- (2) those (404b9-29) who emphasized the sensitive and cognitive aspect of the soul, according to Aristotle.

They “stress knowledge and perception of all that exists” and make the soul consist of the basic principles (tr. Hicks). Empedocles and Plato regard the (four basic) elements as constituent parts of the soul (‘parts’ concerns the 3rd and 4th question above). Plato’s view is inferred from his statements that like is known by like, and that the physical objects around us are made of the four elements (ergo: the cognitive faculty should consist of the elements). Empedocles is cited because he explicitly constructed the soul out of the elements and regarded each of them as soul.⁸⁵

- (3) those who combined the two features (soul as motive and cognitive, 404b27-30) and defined the soul as self-moving number.

This view introduces a non-physical entity into the discussion (number, category of quantity). Aristotle had already indicated some points he did not agree with and now he goes on to elaborate on these, adding a third feature: incorporeality. That incorporeality is a characteristic he himself believes to be necessary becomes clear later where he winds up the overview by stating that “all thinkers define the soul by *three* [aspects], so to speak: motion, sensation, and (in)corporeality”. This is repeated at the end of the overview: “there have been handed down *three* ways according to which they define the soul” (A 5, 409b18). As noted above, this contrasts with his announcement of *two* traditional aspects that distinguish the animate from the inanimate (403b25f.), but also with his reference to *two* distinctive features of the soul at Γ 3.427a17-20, where a renewed treatment of certain views within a systematic context is introduced.⁸⁶ Here we have another example of the way in which different approaches are combined in this section of the treatise. It is the aspect of incorporeality, added by Aristotle, that seems to be responsible for an occasional extension of the number of essential features.

ξύσματα. φανερά δὲ ἔσται ἐν ταῖς ἀκτίσι ταῖς διὰ τῶν θυρίδων· ταῦτα γὰρ κινεῖται κἂν νηνεμία κτλ.).

⁸⁵ On this quotation (DK 31B109) see also Ch. 5, n. 100.

⁸⁶ ἐπεὶ δὲ δύο διαφοραὶς ὀρίζονται μάλιστα τὴν ψυχὴν, κινήσει τε τῇ κατὰ τόπον καὶ τῷ νοεῖν καὶ τῷ κρίνειν [mss. | φρονεῖν Ross] καὶ αἰσθάνεσθαι; cf. Γ 9.432a15f. ἐπεὶ δὲ ἡ ψυχὴ κατὰ δύο ὥρισται δυνάμεις ἡ τῶν ζώων, τῷ τε κριτικῷ, ὃ διανοίας ἔργον ἐστιῶν καὶ αἰσθήσεως, καὶ ἔτι τῷ κινεῖν.

Thus Aristotle has gone over the current explanations, their points of agreement, and mapped out the main characteristics involved in defining the soul. The parallels with *Phys.* Δ are obvious. He takes over the view of most experts who take motion and sensation as essential features of the soul, but he does not agree with the way in which they corroborate their choice and even adds a third feature. If one were to elaborate on several technical elements of his discussion in *De an.* A 2-5, it could be easily shown that many derive from dialectic.⁸⁷ The way in which Aristotle formulates his criticisms in the course of explaining the ‘apparent facts’ (*ta phainomena*) and solving the difficulties shows how the discussion moves quickly from a general to a concrete level and back again. In other words, he may switch from theoretical considerations to existing views and conversely.⁸⁸

2.3. *Summary*

We have seen that Aristotle is true to his programmatic observations concerning the use which may be made of earlier insights and speculations. The “views from those of old” (αἱ τῶν παλαιῶν δόξαι) constitute the raw material for further investigation and the yard-stick for progress. They are chosen for their authority, relevance and originality. Their points of agreement are the touchstones of the truth, while their points of disagreement and obscurities become the subject of a *problēma* and consequently the catalysts for new solutions to old and new problems. The question of a historical or unhistorical approach was shown to be of minor importance, once inappropriate terms and connotations are eliminated. Thus the way has been cleared for measuring Aristotle according to his own standards.

The passages discussed reveal in what way the mandate of the *Topics* can be put to use. Sometimes Aristotle is quite explicit about the method followed, but he may also apply it *currente calamo*. Discussions involving *doxai* are not limited to the first book of treatises, but seem to

⁸⁷ It would take too long to go into detail here (e.g. 406a6 ff. on the meaning of ‘being moved’ ~ *Top.* B 2.109b14; 408a11-12 on ‘combining of parts’ ~ *Top.* 150b22, 151a22-25). I have discussed some of the technicalities in Baltussen (1996).

⁸⁸ Such an approach perhaps regarded as legitimate because, as he states in the *Rhetoric*, dialectic is “a technique independent of any specific field of investigation” (*Rhet.* 1358a10-35, esp. 21-25). For a fuller quotation of this passage see above p. 50.

occur whenever preliminary observations on fundamental points are necessary. The three-fold scheme (classification-elaboration-evaluation) partly squares with the *Phys.* Δ passage. But the paradigmatic structure of the latter passage (which contains four conditions, above 2.2.1) is not fully reproduced in the other examples in 2.2.2. In *De an.* A not all the difficulties are explained (a definition is given in B 1), in *Met.* A the definition is not very important, and in *Phys.* A more attention is given to the *aporiai*. The flexibility of the method is correlative to its inobtrusive nature; to a large extent it took care of itself. In its various forms it played a substantial role in the investigations of the Peripatetics.

3. *Theophrastus on Method*

We should now turn to Theophrastus. So far we have claimed that Aristotle's *Topics* must serve as our source for Peripatetic method in 'historical' overviews. Since there is so little left of Theophrastus' *Topics*, we have looked at Aristotle's method, both 'theory' and practice. We assume that the interpretation given of the wider aims of dialectic hold for both Aristotle and Theophrastus. It therefore remains for us to show in what way Theophrastus' practice contains indications which support our assumption. The main objective of this (final) section of chapter 2 is to collect evidence for establishing a link between Theophrastus' 'doxographical' practice and the claims of the *Top.*

3.1. *Outline of Theophrastus' Methodology*

In stating their view of the nature of Theophrastus' works and methodology modern scholars have emphasised his role not so much as an independent thinker with a mind of his own, but more as a follower and treasurer of the Aristotelian philosophy.⁸⁹ Recent studies have pointed out that this view tends to disregard the specific Theophrastean merits and contributions.⁹⁰ Theophrastus as a rule used the works of his predecessor as a basis for further research.⁹¹ This and the fact

⁸⁹ E.g. Zeller II 2, 813; 834 (quoted by Steinmetz (1964) 7 – cf. above note 12).

⁹⁰ Regenbogen (see n. 106); Steinmetz (1964); K. Gaiser (1985); Wöhrle (1985).

⁹¹ "Grundlage", Regenbogen, col. 1378.

that they had very similar styles and modes of presentation probably made his 'notes' look auxiliary.⁹² The current view is that each case should be judged on its own merits.

As an incisive critic of his colleague's philosophical ideas Theophrastus pointed to problematic aspects and asked pertinent questions⁹³, making the aporetic approach into his trade-mark.⁹⁴ All this illustrates his wide learning and great versatility in readjusting and further developing the system of Aristotle. The best illustration of this approach is a passage in Boethius, *In Ar. De interpr.* 1.9 ff. [72A FHSG], which because of its importance may be quoted in full:

There is also the fact that Theophrastus, *as is his custom in other works*, when he is dealing with matters similar to those which have been dealt with by Aristotle, in the book *On Affirmation and Denial*, too, uses some of the same words as Aristotle used in this book (*De interpr.*). Again, ... in all matters about which he argues after his master, *he touches lightly* on those which he knows have been said by Aristotle earlier, *but follows up more diligently* other things not dealt with by Aristotle. Here too he did the same thing. Aristotle's treatment of statements in this book was covered by him lightly, but matters on which his master was silent he added with a more exact kind of consideration [*italics mine*].⁹⁵

This text gains in importance when we realise that Boethius depends heavily on the learned Porphyry.⁹⁶ At the same time Theophrastus' approach reflects a tendency towards "specialisation which was characteristic of the age, but was even more clearly marked in his

⁹² There even was confusion over the origin of certain works, much for the same reasons. Cf. Wehrli in Flashar (1983) 474.

⁹³ The pioneering article by Regenbogen has clarified Theophrastus' broad scope of investigation as well as his special contributions in new fields of research. These are now coming fully to light through many studies and editions of his extant works and fragments (see Regenbogen, col. 1550f. and FHSG 1992). For examples of Theophrastus' criticisms see for instance G.E.R. Lloyd (1973) 9-15 and 19.

⁹⁴ "in den sogenannten kleinen Schriften offenbart sich Theophrast als der Mann der *historia* und als Problematiker von kaum erschöpflicher Frägelust", Regenbogen, col. 1553; but compare Steinmetz (1964) 116: "nicht alles, was Theophrast in der Form der Frage formuliert, stellt er in Frage".

⁹⁵ Similar views e.g. in Boethius *De syll. cat.* II. 815A, p. 19, 27 ff. (Repici fr.23e= FHSG, 91D), Themistius, *In De an.* (see Ch. 3, n. 45) and Priscian, *Metaphr.* (see Ch. 3, n. 49). But Sandbach's caution remains valid (1985: 71, n.53): "Theophrastus, so far as can be seen from Priscian ... used material provided by Aristotle, but one cannot determine how closely he followed *de anima*".

⁹⁶ Porphyry used *inter alia* work of Alexander, see Ebbesen (1987) 286-311 and Shiel (1987) 312-340.

successors”.⁹⁷ This should not obscure the fact that in the case of Theophrastus not the man, but each treatise is specialized.

If we turn to Theophrastus’ extant works, the basic assumptions of his methodology may be said to depend significantly on his historical position. They can be summarised as follows⁹⁸:

- (a) Theophrastus accepts the basics of Aristotle’s system;⁹⁹
- (b) this acceptance is balanced by the readiness to expose obscurities and inconsistencies and to correct these whenever necessary, taking later developments and results into account;
- (c) Theophrastus greatly valued empirical facts and collected them with eagerness;¹⁰⁰
- (d) he was reluctant to generalise and, whenever he did, his generalisations were of a tentative nature.

The points b–d tie in with his attempt to find a specific method for particular subjects and problems. The *oikeios tropos*, as he calls it (*Met.* 9a11 R.-F.), is an important feature of his working method.¹⁰¹

Regarding his expository practice and style his extant treatises have been rightly described as works originating in and used for school practice.¹⁰² Because of this more empirical, more aporetic attitude, his works often exhibit a cautious style.¹⁰³ Steinmetz may be right in

⁹⁷ Eichholz (1965) 3.

⁹⁸ I follow the excellent summary of Eichholz (1965, introd.); cf. n.23.

⁹⁹ As in his logical works, see Bochenski (1947) 11.

¹⁰⁰ For the textual evidence on the importance of *aisthēsis* in Theophrastus’ system see below Ch. 3.1.

¹⁰¹ Regenbogen, col. 1393.49 ff.; it was foreshadowed in Aristotle, e.g. *PA* 640a1–2, *EN* 1094b13–14, 1098a20 ff., *Top.* 162b8 (κατὰ τὴν οἰκείαν μέθοδον). Compare the recent suggestion by Huby (1985: 321) based on the study of a few large fragments: “we may conclude that Theophrastus wrote works intended to clear up puzzles by means of a detailed examination of cases, often giving different explanations for different cases. It is at least a working-hypothesis that other works were of the same kind”.

¹⁰² ‘lecture-notes’ (λόγοι), Steinmetz (1964) 14 ff.; Steinmetz’ division of each work into “Vorlesungsthemen” is not very appealing (for criticism on this point see Gottschalk (1967), and more recently J. Vallance (1988) 25 and n.4). This judgements of course excludes his *Characters*.

¹⁰³ The difficulty of such a style may be exemplified by the different interpretations it evoked. Whereas Eichholz (1965: 6 n.) finds scepticism in his attitude in a general way, more far-reaching claims linking him with Scepticism as a movement

arguing that the brief and often cryptic style of the *opuscula* is caused by Theophrastus' aim to write down mainly those details that would have been hard to remember.¹⁰⁴ However this may be, the transitions of separate parts of the treatises are sufficiently marked.

Some interesting observations on Theophrastus' expository principles in the botanical works are presented in Wöhrle's study.¹⁰⁵ Briefly stated, four basic approaches ('rules') can be distinguished:

- (1) the use of comparisons/ analogies, mainly between *HP* and *CP*; these have an illustrative effect, but at times can also serve to establish an hypothesis or to back up an assumption;¹⁰⁶
- (2) *sêmeion* conclusions ("Indizienschlüsse"), in which the 'sign' is taken as indicating or representing a certain state of affairs;¹⁰⁷
- (3) the referring of phenomena to a general rule; the general rules are not further explained, because they are regarded as self-evident;¹⁰⁸
- (4) the theory of multiple causation, a result which links up with earlier and recent findings.¹⁰⁹

Wöhrle also describes certain wider methodological principles which corroborate from another quarter the picture we have just presented:

- (5) in botany Theophrastus works with a *paradigma* as a model (the tree) in order to start from what seems most 'perfect' and best known.¹¹⁰

can be found in Weische (1961) 61, 74 ff., but his use of the term 'sceptical/-ism' seems misguided (cf. Mansfeld, 1990b: 3173 n.567; Krämer, 1971: 13). For a better judgement see Ch. 3, n.30.

¹⁰⁴ Steinmetz (1964) 17 ff. Perhaps this fits in with Theophrastus' habit of always pointing to exceptional cases and oddities (ἴδια, περίττα, in for instance in his *HP*) or even the emphasis on *diaphorai*. Cf. D. Balme (1988) 133 n. 48; Steinmetz (1964) 325 and below Ch. 4.2.

¹⁰⁵ See Wöhrle (1985), Kap. 4 "Methode der Darstellung"; Kap. 5 "Allgemeine Methodische Grundsätze".

¹⁰⁶ Wöhrle (1985) 129, 132n.; Regenbogen *Kl. Schr.* I (1961) 143f. Compare the phrase κατ' ἀναλογίαν in *Metaph.* 8a19 R.-F. (close to Ar. *Phys.* 191a7-12). Analogy is also a tool in dialectic, see *Top.* A 15-18 and above Ch. 2.1.

¹⁰⁷ *ibid.*, 139. On the term σημεῖον compare Ch. 5, n. 122 and text thereto.

¹⁰⁸ *ibid.* 141 ff. with examples. On 'referring back to' (ἀνάγειν) as a technical term compare Ch. 5, p. 168.

¹⁰⁹ Steinmetz, "Pluralismus von Ursachen" (1964: 32f.); cf. Daiber (1992) 287.

¹¹⁰ Wöhrle (1985) 149f. Steinmetz (1964: 26; quoted by Wöhrle, 150 n.) already

- (6) Theophrastus also shows sufficient awareness of the relative precision attainable depending on the subject under discussion (one may compare Aristotle's ὡς τύπῳ περιλαβεῖν)¹¹¹.

Wöhrle finally points to the fact that Theophrastus discussed existing opinions and commented upon contradictions among them, but he did not go any further than this observation.¹¹² In sum, the available material seems to warrant the conclusion that there was a certain uniformity and consistency in Theophrastus' methodology.

3.2. *Authorial Remarks Concerning Method*

It will be useful to balance the foregoing description in rather general terms with a discussion of a small number of *ipsissima verba*, that is to say the explicit remarks pertaining to exposition and methodology. Since Theophrastus sticks to facts and most of the time steers clear of generalisations, only few 'theoretical' remarks are found. Clearly he applies rather than explains his method. The following passages are worth discussing, as they are quite explicit on points of methodology. At the same time they appear to be in accordance with criteria which are prompted by the dialectical method described earlier (2.1). They concern (i) presentation, (ii) consistency, (iii) theory vs. practice.

(i) An interesting motive for the correct way of stating explanations in an argument is provided in his work *On winds*. At *Vent.* 59 Theophrastus, almost casually, states that one should supply a reason for puzzling facts or 'missing links', unless it concerns something which is *eulogon*, i.e. 'consistent with what is to be expected': "people concede it (συγχωροῦσιν) with no explicit reason being stated, for people are good at supplying what is left out".¹¹³ The term συγχωροῦσιν (conceding or

pointed out that the example function of one specimen dominated the descriptive works of Aristotle and Theophrastus as point of reference.

¹¹¹ Cf. Kullmann (1974) 122 ff. For Theophrastus this was dealt with by Strömberg (1937) 30f.

¹¹² "Weiterhin zeigt Theophrast noch Widersprüchlichkeiten in den bestehenden Ansichten auf" (Wöhrle, *op.cit.*, 158f.).

¹¹³ *Vent.* 59: ἀπλῶς δὲ τὰ μὲν τοιαῦτα σχεδὸν ἐμφανεῖς [...] τὸ γὰρ παράλογον αἰτίαν ἐπιζητεῖ, τὸ δ' εὐλογον καὶ ἄνευ αἰτίας συγχωροῦσιν οἱ ἄνθρωποι· δεινοὶ γὰρ προσθεῖναι τὸ ἑλλείπες. That people are not always as successful as Theophrastus wants us (or his audience) to believe can be shown from his statement in Fr. 175 W. [= 362A *FHSG*] where the reason supplied by people is played down as a figment of their own mind, which is capable of providing an hypothesis of its own: οἱ ἄνθρωποι ἐκ τῆς ἰδίας

giving one's consent) reminds us of this crucial term in Aristotle's *Topics* (e.g. 121b33, 126b9, 148b9, 156b28) where it concerns the demand of admitting a proposed statement in order to let the discussion proceed, since the dialectical debate can only work on agreed premisses. By speaking of 'admitting' Theophrastus implicitly appeals to the cogency of explanations.¹¹⁴ His emphasis on the *omission* of a reason squares well with his criticism of such omissions in the *DS*.¹¹⁵

(ii) A brief but significant remark on presentation is stated in *De odor.* 64. In this study of odors Theophrastus turns to a comparison between odors and other sense-impressions. The point he is trying to make is directed against Democritus. Theophrastus argues that the latter's theory of the *schēmata*, configurations of atoms, should be extended to all the senses:

Why while assigning various flavors to the sense of taste does he not in a like manner (ὁμοίως) assign various smells and colors to the senses to which they belong?

Theophrastus criticizes Democritus' thesis in its applicability, taking the notion of *schēmata* as a self-imposed rule which holds for all the senses.¹¹⁶

(iii) On the relationship between fact and explanation Theophrastus is quite clear in *CP* 1.1: when one gives reasons for the distinctions in the nature of plants, the explanations (τοὺς λόγους) should harmonise with the descriptions of the plants and their origin or cause.¹¹⁷ Furthermore, when he states (*CP* 1.21.4) that there exists a crucial difference between the province of the senses (observation of the facts) and that of reason (representation of the facts¹¹⁸), he expresses his awareness of the

ὑπολήψεως ταύτην αὐτοῖς περιῆψαν τὴν αἰτίαν παντί. A similar line of thought occurs in a fragment from Plutarch (*Conviv.* 631E; not in Wimmer, but (711) *FHSG* concerning jokes: ὀνειδισμὸς γάρ ἐστιν τῆς ἀμαρτίας παρεσχηματισμένος τὸ σκῶμμα κατὰ τὸν Θεόφραστον· ὅθεν ἐξ αὐτοῦ τῇ ὑπονοίᾳ προστίθῃσιν ὁ ἀκούσας τὸ ἐλλείπον ὡς εἰδῶς καὶ πιστεύων. Cf. *CP* 1.4.6. καὶ γὰρ εἴ τι παραλέλειπται, προσθεῖναι καὶ συνιδεῖν οὐ χαλεπόν. One may also compare (as do E.-L., *ad loc.*) Ar. *Soph.El.* 183b25-28, *EN* 1.7, 1098a24-25, and *CP* 6.15.1.

¹¹⁴ Cf. above n. 19 and text thereto and Aristotle's *Rhet.* 1357a18-19.

¹¹⁵ E.g. λόγου δέεται; παρα-/ἀπολείπουσι etc. On this aspect see Ch. 5.2.

¹¹⁶ On consistency see Ch. 3.1. On this passage as a whole, where Theophrastus is criticizing Democritus, see also Ch. 5.2.3 and Ross, Theophrastus' *Metaph.* introd. xiii-xiv.

¹¹⁷ *CP* 1.1.1: οικείως ἔχει διελεῖν τίνες ἐκάστοις καὶ διὰ ποίας αἰτίας, ἀρχαῖς χρωμένους ταῖς κατὰ τὰς ἰδίας οὐσίας· εὐθὺ γὰρ χρή συμφωνεῖσθαι τοὺς λόγους τοῖς εἰρημένοις.

¹¹⁸ On this passage see Ch. 3, p. 83. Another important passage is *CP* 3.2.3-5.

problematic relationship between facts and their (verbal) representation in the pursuit for evident and secure (that is, unquestionable) knowledge.

From this overview of *ipsissima verba* the following picture presents itself. Theophrastus' 'concept of method' is an interesting amalgam of empiricism and deduction, combined with specific argumentative tactics. Here no doubt Theophrastus is a man of his time, trying to come to grips with the ever-growing amount of data. On the other hand, he cannot ignore the traditionally speculative side of philosophical inquiry. In his analyses of empirical data as well as of existing views he shows respect for the facts combined with a readiness to question the verbal expression, consistency and coherence of the views at issue. He lays considerable stress on correct explanations (the relationship between a *logos* and the facts), and is very much aware of the divide that separates perception from reason. His use of existing views exhibits a particular interest in conflicting elements.¹¹⁹ In the next section we will explore the question whether his treatment of the views of others confirms this characterisation.

3.3. *Discussions of Doxai*

Theophrastus' interest in the views of others, a constant feature of his work, has remained unexplained, though not unnoticed.¹²⁰ His way of handling 'doxographic' material in other works is important in view of the question whether his approach there is similar to that in the *DS*. The distinction I make between the *DS* and his other works is based on the fact that the latter are more clearly systematic. They are also of considerable interest because they contain explicit remarks on methodology. But earlier remarks on this aspect did not aim at finding coherence in this approach.¹²¹ Both the nature and the amount of the material have not been studied sufficiently.

The different categories incorporating the views that are mentioned

¹¹⁹ For the discussion of 'endoxic views' see Ch. 5.1.2 and 6.1.1 section [ii].

¹²⁰ Theophrastus' use of the views of these 'eye-witnesses' and more specifically of those on botany and the more speculative field of philosophy has not been the subject of systematic analysis. On etymological explanations, proverbial expressions and pre-philosophical notions see Steinmetz (1964) 55, 137; cf. 133, 142n.

¹²¹ Cf. Brandis (1860) 291; Steinmetz (1964) 34, 89 n.5, 99, 101, 336; E.-L., xix-xx; Wöhrle (1985) 56. A good (and almost complete) listing of persons discussed in Theophrastus (with possible sources) is in Einarson-Link (1976) xix-xxiii.

are roughly in agreement with the Aristotelian *endoxa*. Along with opinions of experienced people (σοφοί) in many everyday activities (craftsmanship, technical processes) hear-say reports and “stories” (μῦθοι) are included.¹²² This indicates that oral reports from different quarters may enter the discussion. But Theophrastus like Aristotle (and Plato) had a preference for ‘qualified’ opinions of those working in specific fields (*technai*). One need not be surprised that his (botanical) works are studded with reports from all kinds of experts such as botanists, root-diggers, and miners.¹²³

From this one might derive the impression (or expectation) that Theophrastus’ works contain much useful material for comparison with the *DS*. We must however specify the nature of the *doxai* discussions. Obviously *we* are more interested in views *with* name-labels than without. The amount of labeled *doxai* discussed in Theophrastus’ extant works (other than the *DS*) is surprisingly low. More often than not the views he refers to are anonymous.¹²⁴ One reason for this is of course the habit of the ancients not to mention the names of contemporaries still alive.¹²⁵ Another may be the fact that the sources often are hearsay reports from all over the Greek-speaking world. Theophrastus may further have believed it to be superfluous to give lists of labeled *doxai* in his own works *if* these were readily available in the treatises of Aristotle and, presumably, in a collection of his own.¹²⁶ Moreover, his work covered new subjects not yet studied by earlier thinkers. In any case the number of Theophrastus’ extant works is quite small and they cannot provide an adequate impression of the role and scope of the *doxai* discussions in systematic contexts.

I now list a few instances of ‘endoxic contexts’ (passages containing *endoxa*) in which criticism is expressed. They are arranged in four subsections (A to D).¹²⁷ The order is more or less according to the increasing explicitness of the criticisms found there.

¹²² On his interest in technical matters, see Schnayder (1962) 259-286; on the second point see Steinmetz (1964) 34 and my remarks on the following pages.

¹²³ See *HP*, *passim*; Fr. 174 W. οἱ ἔμπειροι [= fr. 359A.51 *FHSG*] and *Vent.* quoted above n.120; Theophrastus is critical towards “folklore” in e.g. Fr. 186 W.: Λέγει δὲ Θ. ἐκβαλὼν τὸν μῦθον κτλ. [= fr. 355A *FHSG*]. Cf. Schnayder (1962) 259 ff.

¹²⁴ Referred to by τινες, οἱ μὲν... οἱ δὲ; φασίν etc. Cf. also his *Metarsiol.*

¹²⁵ Einarson-Link (1976) p. xix. With regard to Theophrastus’ *Metaphysics* one might wonder if the explicit mentioning of Plato by name is significant for dating this work.

¹²⁶ On collections see n. 19 and 33 (with text thereto).

¹²⁷ An list of important *doxai* in his work is given in Appendix C.

(A) His *critical* attitude towards conflicting reports is clear from several passages in the *Historia Plantarum* (HP), the “inquiry (ἱστορία) into plants”. In this large collection of facts we find many hearsay accounts of the nature of plants.¹²⁸ These accounts are collected mainly for their content, the persons holding them seem to be of secondary importance. He also mentions minor disputes on a few matters, not always deciding between them.

There are indications that he is trying to be comprehensive.¹²⁹ For instance, he points to conflicting reports on the same subject without discussing the matter (HP 6.3.5-6), but concludes by saying that further investigation is required.¹³⁰ But elsewhere Theophrastus actually makes a choice between two ‘rival accounts’ of fruit-bearing plants (6.7.2). The preferable account is said to be more truthful (ἀληθέστερον), the criterion for truthfulness consisting in the nature (φύσις) of the wild forms of thyme, a conclusion which he supports by counter-evidence.

In HP 9.4.1-10 he is more explicit. After having reported two (anonymous) versions of the nature of the frankincense tree (9.4.4 “these say...”; 9.4.7 “others however...”) he first points to a contradiction (9.4.8, cf. 4.2) and then reports conflicting views, rejecting one (the reproach is ignorance) and accepting the other because it is more persuasive (it has a λόγος πιθανώτερος — note that this phrase belongs to a dialectical argument rather than a scientific one, cf. *Top.* A 11; *DS* 1 τὸ πιθανόν). Other examples bring out Theophrastus’ view on credibility. A report must be convincing (πιθανός) to obtain acceptance. But he does not discard a view completely because it has a single flaw; his verdict is balanced by the approval of certain other aspects.¹³¹ Finally,

¹²⁸ The ‘illusion’ of personal attendance is maintained by the use of words such as ἀκούω, λέγεται, λέγουσι, φασίν etc.

¹²⁹ For indications that he aims at comprehensiveness see e.g. HP 9.4.10; 9.8.3/8. The result of collecting hearsay reports can be that there is disagreement on what a plant actually looks like (e.g. HP 9.10.1 περὶ δὲ τῆς ὄψεως διαφωνοῦσι).

¹³⁰ ταῦτα μὲν ὁποτέρως ἔχει σκεπτέον, 6.3.6. On such remarks cf. E.-L. (n. 125), ix; on the phrase ὁποτέρως ἔχει see also Ch. 6.3.2, n. 89 (on *DS* 60).

¹³¹ Theophrastus may reject a report (although he still gives the account) as being sheer fable (τῷ ὄντι μῦθος, 9.5.2) or probably exaggerated (ἐπιτραγοῦντες λέγουσι, 9.8.5), other points he accepts (τάχ’ ἂν οὐκ ἀλλοτρίως δόξειεν λέγειν ...) characterizing them as appropriate and relevant (ἴσως οἰκείως). Elements he rejects are called “artificial and far-fetched” (ὥσπερ ἐπίθετα καὶ πόρρωθεν). On the link between myth and philosophy compare Aristotle, *Metaph.* A, 982b12 ff. (the *philomythos* and the *philosophos*).

at the opening section of book eight (8.1.2), he combines a qualified *endoxon* with an appeal to a majority, which may emphasize the importance of an issue.¹³²

All in all, these accounts in *HP* seem to fit the general nature of the work as a collection of facts which includes descriptive accounts. The conflicts in reported views can easily arise out of the diversity of the material eagerly collected by Theophrastus. But he not only collects views, he also aims at a critical evaluation of a report whenever it seems necessary to decide upon its credibility, its truth or its relevance to the subject at issue. In all cases his preference for factual evidence dominates his decisions. The authoritative opinions mentioned have the same ‘endoxic’ value (i.e. the extent to which they are accepted) as the *endoxa* described in Aristotle’s *Topics*. We may already note, however, that most of the time Theophrastus appeals to these views as authorities on *facts*, whereas Aristotle seems to explore their presuppositions or method (*tropos*) as aspects of an *argumentative strategy*.

(B) In *De odor.* 64 Theophrastus finds fault with Democritus’ exposition because he should have assigned to smell and colour various names of kinds, as he assigned flavours to taste. The analogy between odors and flavors is Aristotelian (*De an.* 421a26 ff.). Theophrastus’ point seems to be that the relationship between a sense and its qualities, which is common to all the senses, must be expressed in the explanation. Democritus’ idea of the *schēmata* necessitates such an overall application. Theophrastus goes on to argue that this criticism equally applies to those who did not possess a general method of classification. This particular case shows the strict criteria according to which Theophrastus expects a theory (of the senses) to give explanations (cf. Ch. 3.1).

(C) In his treatise *De igne* Theophrastus mentions “those of the old thinkers” (παλαιῶν) who also said that fire is in constant need of fuel.¹³³ The appeal to earlier views (authorities) on this matter is

¹³² Ἡσίοδος [Hes. *Op.* 383] ... καὶ σχεδὸν οἱ πλείστοι. Note the arrangement: first a famous person (perhaps an authority in this field), next the majority is added (E.-L. translate σχεδὸν οἱ πλείστοι as “most authorities”).

¹³³ The παλαιοί were identified by Gercke as Anaximander and Heraclitus; the view returns among the general public and later the Stoics (Περὶ πυρός 1896, 35; accepted by Steinmetz 1964, 115n3). The tenet resembles Aristotle, *De juv.* 5, 469b2; [Arist.] *Probl.* 1.55 ad 470a15-18.

apparently Theophrastus' way of obtaining further support for his own remarks. In §§ 52-53 he discusses the form (σχῆμα) of flame as pyramidal.¹³⁴ Why this is held to be pyramidal, Theophrastus continues, can be found in Democritus and some other old thinkers:

Democritus says that "the edges while being cooled are reduced in size and finally become chafed off". Others say [thereby criticising D.] that "the upper part of the flame, since it is weaker, is split in different directions through the impact of the movement of wind that falls upon it", and that "(?) it is in turbulent motion, yet not being cooled by the movement of the gust of wind; for if it would cool on top (of the flame) this should occur likewise <below> [added by Gercke]".

Here the views are confronted with each other. Democritus did not observe the facts correctly and according to Theophrastus he is inconsistent.¹³⁵ Perception is the crucial criterion. Along with it the evaluation of the facts on a more theoretical level exposes the inconsistency and therefore evokes criticism.¹³⁶ It is tempting to think of these references to Democritus as standardised i.e. coming from the same collection, because every time he is mentioned the concept of σχῆμα (in different senses) crops up.¹³⁷

(D) More examples of antithetical attitudes are found in the first and second books of the *De causis plantarum* (CP), which also contain several fundamental methodological statements.¹³⁸ Theophrastus 'quotes' and criticizes some of his predecessors by name and the material he brings forward is considerable. Moreover, in a few cases the topics at issue and the persons mentioned are of particular interest for our study of the DS.

It is clear from the references to the Presocratics that they are mentioned on account of one specific item related to the topic discussed. In the introduction Theophrastus starts at a general level, asserting that

¹³⁴ Here I follow Steinmetz (1964) 138 ff.; cf. next note.

¹³⁵ According to Steinmetz a third group of παλαιοί is mentioned (but this requires changes in the text. They seem to have a view which is in the middle of the two already mentioned: "still others say that the flame exhibits a sharp form not through one of the two reasons: ...").

¹³⁶ As for the rare cases of critical evaluation in these minor treatises Steinmetz (1964: 336) correctly points out that it often concerns subjects which were not dealt with before Aristotle's or Theophrastus' time.

¹³⁷ Cf. below Ch.5.3.1 (p. 190).

¹³⁸ For "On the explanations (causes) of plants" being the counterpart to HP, as was GA to HA for Aristotle, see Wöhrle (1985) 3-21.

reproduction from seed is common to all seed-bearing plants. This, he adds, is corroborated by both the facts and logic. The seed is thus regarded as a basic element and the argument turns on the statement that “nature does nothing without a purpose”. His evaluation contains many elements familiar from dialectic, such as *endoxa* (a generally agreed assumption, views of craftsmen and those of some *anonymi*), discursive reasoning, and criticism.¹³⁹

The introductory section is concluded by regarding as established the assumption that all plants come from seed (1.1.2).¹⁴⁰ He considers a possible exception: if it should turn out that in some cases generation occurs in both ways (i.e. through seed and spontaneously), this is not an anomaly (οὐδὲν ἄτοπον), for with animals too this is sometimes the case. The inconsistency is here explained (or rather explained away) by analogy with the apparently canonical account of Aristotle’s *GA*.¹⁴¹

Theophrastus proceeds to discuss the air as a possible agent for the supply of seeds and refers to Anaxagoras, opposing his view to that of the ‘many’.¹⁴² By adducing more examples he substantiates the air theory, thereby preferring Anaxagoras’ position. In *CP* 1.7.1 we encounter Empedocles.¹⁴³ The topic is the self-nourishment of seed and Theophrastus’ first example is eggs. For this reason Empedocles is quoted¹⁴⁴ as having said that ‘tall trees reproduce through eggs’. While approving of the Empedoclean view, Theophrastus corrects its scope (*italics mine*): “we must *extend* Empedocles’ dictum to all plants, as every kind of seed has nourishment in itself”.¹⁴⁵ In *CP* 1.10.3 we find

¹³⁹ 1.1.2 ὅπερ ἐκ τῶν ἄλλων πάντων λαμβάνειν ἐστὶν ὁμολογούμενον; (*ibid.* διὰ τὸ μὴ χρῆσθαι τοὺς γεωργοὺς ἐπ’ ἐνίων ... καὶ διὰ τὸ μὴ εἶναι ῥαδίως ... διὰ ταῦτ’ οὐκ οἴονται τινες ...) are explicitly mentioned and countered with one example (figs).

¹⁴⁰ ὅτι μὲν οὖν κοινὴ πᾶσιν ἡ διὰ τοῦ σπέρματος γένεσις φανερόν. On φανερόν as the conclusion of an argument in Aristotle, see Bonitz *Index*, 811a1-4.

¹⁴¹ See Ar. *GA* Γ 11.762a9-14 and Wöhrle (1985) 83.

¹⁴² A similar connection between Anaxagoras and ‘the many’ is found in the *DS* 36, 37, on which see Ch. 5.3.2. Cf. Dengler (1927) 33 n.4 who for Anaxagoras points to parallels in *HP* 3.1.4 and Varro *R.R.* 1.40.1

¹⁴³ Empedocles is also referred to in 1.12.5; 1.13.1; 1.21.5. Cf. Plutarch 683D.

¹⁴⁴ DK 31B79; paralleled in Arist. *GA* A 23.731a4.

¹⁴⁵ In his ‘critical’ remark (cf. n. 147) we see his concern with degrees of applicability. Such an approach is based on classificatory principles reflected in dialectical terminology (*genos*; perhaps Aristotle, *De an.* A 2 offers a parallel, see Ch. 2.2.2). The motive for reviewing previous opinions also lies in the *formulation* of their proposals (note esp. the phrase “(not) well said”, (οὐ) κακῶς λέγειν). This aspect is treated in detail in *Top.* Z 3.139b12-141a25. It is not a merely stylistic matter.

Clidemus.¹⁴⁶ He features among a group of otherwise anonymous persons who assign the reason (αἰτιωνταί τινες) for “budding in contrary seasons”, i.e. cold plants in warm season and conversely, to warmth or coldness. Theophrastus admits that the facts support this, for cold plants sprout in summer and, conversely, warm plants in winter, adding “this is also the opinion of Clidemus; and while this is not a bad way of stating the matter [see n. 145], we still ought to consider insufficiency and weakness and any other associated cause, as we observe them in vegetables as well” (cf. *HP* 7.1.5).

An interesting view is found at *CP* 1.8.1 where Democritus enters the discussion on the difference in growth between plants from seed and plants which are ‘root-grown’. Theophrastus states that growth from a graft is more easy and vigorous than from seeds. A disjunctive question follows:

Passing to matters dependent on the distinctive natures of the trees, and comparing rapid and slow growers as one would compare two natural classes,¹⁴⁷ we must determine *whether* (πότερα) we are to find the reason, as does Democritus, in the straightness of their passages (κατὰ τὰς εὐθύτητας ληπτέον κτλ.) – ‘for the course of the sap is easy-flowing and unimpeded’... as he says – *or* (ἢ) whether it is rather the case in all those ... that are less dense and more moist.

The structure of the question (and the opposition of views) answers to the description of the *problēma* (a question which articulates a controversy). Theophrastus settles the matter by arguing from a general assumption. Democritus’ view is used as a stepping stone to proceed to the intended conclusion. His argument is not very convincing or logically cogent, but it makes explicit what was implied in the question (is the cause in the passages or in the nature of certain things?), while taking a general assumption for granted.¹⁴⁸ No explicit criticism is formulated.

¹⁴⁶ Clidemus is one of several cases of source variety between Aristotle and Theophrastus: against one occurrence in Aristotle (*Meteor.* B 9.370a11 ff.) we have, apart from *DS* 38, three reports of his view on (botanical) topics (*loc.cit.*; *CP* 3.23.1; *HP* 3.1.4).

¹⁴⁷ ὅσα δὲ κατὰ τὰς ἰδίας φύσεις, ὡς ἂν γένος πρὸς γένος ὁ συγκρίνων λάβοι τις ...: on *genos* see Wörhle (1985) 129 and compare *Top.* A 15.107a2 ff., Δ. 1-6.

¹⁴⁸ Cf. Bonitz, *Index* 312b57 ff. s.v. πότερον ... ἢ, who states that in this phrase Aristotle mostly prefers the second option (but there are exceptions, see Ch. 3, n. 75).

Democritus reappears at *CP* 2.11.7 for having dealt with fruit-bearing and longevity (*CP* 2.11). Apparently Democritus suggested a cause (αἰτιῶται) for early sprouting and shorter life. The report is stated in indirect speech (as in the *DS*) and is closed in a way characteristic of inserted reports in both Aristotle and Theophrastus¹⁴⁹. Theophrastus rejects Democritus' explanation (2.11.9-11) on the basis of abundant examples from observation.¹⁵⁰

Finally, at 1.21 ff. a more extensive and critical passage is found. Here Theophrastus discusses views of Menestor, one of his few predecessors in botany (see also *CP* 2.4.3; 5-6). We see that he is concerned with refuting Menestor on the role of the hot and cold and the occurrence of plants in certain regions.¹⁵¹ The strict separation of report and criticism reminds us of the *DS*. Theophrastus' arguments are based on observation and Aristotelian positions. From this example it is clear that Theophrastus opposes previous views more strongly whenever they present a challenge to important concepts in Peripatetic doctrine.¹⁵²

I conclude this section, although further passages could be discussed.¹⁵³ On the whole the foregoing examples of an appeal to earlier views do not seem to reveal a consistent pattern, although some provide a parallel to the approach in the *DS*. Clearly each view is brought in for its relevance to the subject under discussion. The remarkable ease with which Theophrastus produces older views on many different details cannot easily be explained, unless we assume that he had structured his notes according to subject (perhaps as prescribed in *Top.* A.14).

¹⁴⁹ ἃ μὲν οὖν λέγει ταῦτά ἐστιν, 2.11.8. The phrase is standard, cf. Ch. 5, nn. 38, 54.

¹⁵⁰ See E.-L., vol. I, 295-98 with notes.

¹⁵¹ The hot and cold also play a prominent part in the biological and physiological theory of Aristotle. They are the active (first) principles with special powers, see Solmsen (1960) 337-352, 374 ff. and Freudenthal (1995) 19-35.

¹⁵² I skip a discussion of contrasting (but anonymous) views at 2.9.9 where Theophrastus concludes the evaluation by stating that "it is possible to get the explanation on either theory" (τὴν μὲν οὖν αἰτίαν ἀμφοτέρως λαβεῖν ἐνδέχεται [Einarson-Link (1976), 272 line 20]; note that the phrase ἀμφοτέρως λαβεῖν is also found at *DS* 48.

¹⁵³ A quite interesting passage is the opening part of *CP* 6 which deals with tastes and smells. Here the opinions of Plato and Democritus are juxtaposed as representing two contrasting positions on the issue. (I plan to discuss the procedure of *CP* 6 in detail in a separate paper, although some remarks will be made in Ch. 4.)

3.4. Conclusion

From studying Theophrastus' approach in dealing with the views of his predecessors the following features emerge. The *number* of references to existing and current views is comparatively low in the systematic treatises. This may in part be explained by the fact that the subjects Theophrastus deals with were often not among the standard subjects of previous treatments of natural philosophy, although they may have been touched upon in passing. If earlier thinkers did state significant views, Theophrastus seems to have known these, for even in relatively unimportant details he is able to report a view pertaining to the question at issue. Anonymous views stand side by side with reputable tenets. Contemporary views are not always reported anonymously. In none of the examples reviewed do we find systematic cross-references as known from the *DS* and the *Phys.op.*

The most telling feature of his references to *earlier* views is the fact that many are quoted for the factual evidence they provide, and that it is these facts that Theophrastus takes issue with. Accordingly the emphasis is often on contrasting *evidence* rather than contrasting *views*, especially in the enormous treasure of amassed facts in the botanical works.

Theophrastus does not go into terminological details in the same way as Aristotle. His concern seems to be to go over the material collected and decide upon its relevance and value for his own investigations. His critical comments concern the scope of the explanation, knowledge of facts, or correct observation. In his choice between conflicting reports he seems to decide by the truthfulness or persuasiveness of a report. It is hard to establish what actually constitutes the criterion for persuasiveness in these passages. We will see shortly that his views on this point, which are closely related to his views on perception and epistemology, must be culled from later sources.

CHAPTER THREE

THEORIES OF PERCEPTION: POSITIONS AND ARGUMENTS

Theories of perception are not among the much discussed subjects in studies on the history of ancient philosophy. Just as Aristotle's *Parva naturalia* have long remained a neglected area, so interest in Theophrastus' ideas on perception has always been rather low.¹ This neglect is perhaps enhanced by the difficulties inherent in the evidence for his views. Presumably the views he endorsed are found in the fragments, and those he disagrees with in the *DS*. These 'positive' and 'negative' poles of his doctrine pose difficulties of interpretation. Beare's discussion of the early theories of perception up to Aristotle (1906) combines a wealth of material with a sound analysis and is still indispensable. What has not been done sufficiently is to assess the influence of the argumentative habits on the presentation of the arguments concerning this subject, both on the adherents of the theories themselves and on later reporters.² The neglect of this aspect has resulted in an overly pessimistic attitude towards the way in which the views were reported, as a result of the critic's prejudice.

In the present chapter we prepare the way for our search for (possible) dialectical features in the *DS*. We will look at earlier discussions of the debate on perception and start the analysis of the argumentation of the *DS* in the following order. First, it will be helpful to clarify Theophrastus' position within the tradition of explanations concerning perception and to discuss very briefly the role of existing 'theories' (in a broad sense) in ancient philosophy from the Presocratics to Aristotle (Ch. 3.1). Next we discuss the unobtrusive way in which the Peripatetic doctrine of the critic lurks behind the presentation and criticism of the pre-Aristotelian 'theories' of perception. These

¹ Cf. Hamlyn (1961) 5-30 and Beare for a marginal treatment of Theophrastus.

² Beare's contribution on this aspect is limited to some incidental remarks. The closest he gets to considering the dialectical nature of the argumentation is when he states: "Theophrastus with the art of the dialectician pushes the difficulty ... home against Empedocles." (p. 97). His use of the word dialectical elsewhere is irrelevant here ("dialectical or rational psychology", p. 6, cf. also p. 35 n.5).

preparatory steps are necessary before we take up the analysis of the argumentation as such. In short, we first want to know what Theophrastus' own views on preception were, how they fit into the tradition, and whether his discussion of previous views played a role in his own theorizing of the subject.

1. *Theophrastus and the Tradition*

By the time Theophrastus joined the debate on perception, Greek philosophy had already a fairly long record of treatments of the sensory faculties. Several stages of explanatory efforts had passed, from the pre-Aristotelian thinkers who treated the topic on a concrete level to the elaborate and more sophisticated theory of Aristotle. The earliest thinkers dealt with the functions of the senses mostly on the basis of everyday observation. The Presocratics formulated bold speculations as to how we should explain processes which were assumed to operate below the perceptive level.³ That is why similes and analogies are a much-used form of early explanations, for instance Empedocles' famous simile of the lantern clarifies his explanation of vision. As the philosophical ideas on knowledge developed and a treatment of perception became a crucial and indispensable part of epistemology, the discussion gradually became more detailed and technical, though still elaborating standard examples.

In the works written before the *Tim.* Plato expressed reserve regarding the value of everyday reality, thereby discouraging interest in a theory of perception. However this may be, he still had to deal with what had already become traditional questions about the relevance of sense-data for the process of acquiring knowledge (e.g. in the *Theaetetus*). That he never engaged in physical considerations is due to the predominance of his metaphysical theory over his conclusions concerning knowledge.⁴ Yet, as we will see, his account of perception in the *Timaeus*, where many of his remarks are polemical and provocative, gives more grounds for doubting his previously stated contempt

³ Cf. Beare, 4-5; G.E.R. Lloyd (1973) 8-15; *id.* (1991) 327 ff.

⁴ It would be a mistake to think that Plato neglected sense perception altogether (see Lloyd 1968): but his treatment of the subject clearly aims at playing down its importance in the acquisition of real knowledge. For further remarks on Plato's views on perception see Ch. 4.1.

for the senses and warns us that these remarks should not be taken at face value.

Aristotle firmly established the importance of perception and returned to realism. Here as in other fields he combined his treatment of the subject with a historical awareness of his own position. Such an awareness had to lead to a more sophisticated and self-conscious approach towards the material and the existing views on it. Working from hindsight his discussion of perception exhibits a certain sense of superiority, combined with little shocks of recognition. With a highly developed set of standards, superior both conceptually and terminologically to those of the earlier thinkers, he is able to diagnose flaws and inconsistencies, while also combining and reformulating interesting ideas and suggestions.

The starting-point for Theophrastus, then, was clearly one of huge historical and theoretical advantage. Not only could he make use of the extensive material available in writing, but he also could employ arguments of a higher theoretical level which aimed at consistency and logical cogency. This is one reason why he could undermine the Presocratic positions with relative ease. Although the earliest efforts stand out as remarkable attempts at explanation and were perhaps not always without merit, in general the Presocratics, in an attempt to explain individual phenomena, often produced bundles of explanations instead of homogeneous and consistent theories.⁵ When Theophrastus set out to collect and evaluate these partial explanations, he (like Aristotle) was bound to find many incompatible and inconsistent elements. This attitude was made possible partly because the art of writing had established itself on the philosophical scene, bringing with it new approaches towards language, logic, and the 'theories' expressed in it.⁶ The fact that Plato complained about the inflexibility of

⁵ This *proviso* should be kept in mind when hereafter the term 'theory' is used with reference to the Presocratics. Empedocles may be regarded as the first to make an *attempt* at a comprehensive and more consistent 'theory': on his success in this respect see Ch. 5.3.1 (esp. n. 65).

⁶ Earlier attempts at a 'philosophy of language' existed (Heraclitus, Parmenides) but now more than before an objective attitude to language enhanced a critical view of consistency, since writing 'freezes' words (and their meanings) in time. Consequently the variance in meaning between passages can be verified more easily, but misunderstandings can also occur. From this perspective the writer is forced to design a more secure set of meanings (or to be more explicit and anticipate problems). For the debate on the role of writing see the useful summary in G.E.R. Lloyd (1991) 121-127 and next note.

the written word and that, in contrast, verbal clarity and semantics were exploited and made into an art by Aristotle supports the hypothesis that in this particular period the new role of writing and its influence on rational expression was already firmly marked.⁷

This very general overview must suffice for our present purpose of positioning Theophrastus in this development of the study of perception. We may now turn to the relationship between Theophrastus and the philosophers discussed by him in the *DS* from a doctrinal point of view.

1.1. *Perception as a Part of Physics*

Most of Aristotle's views on perception are set out in the *De sensu et sensibilibus* and the *De anima* (B.5-12), two works which are thematically linked. The former discusses the nature of the sensible objects and the latter is concerned with the interaction of perception and the soul. Taken together one could say they are a first attempt at formulating a 'philosophy of mind'.⁸ Both works give us the opportunity to fill in the gaps of Theophrastus' views on the subject.⁹ The theory has a strongly physiological basis and provides a detailed description of the mechanisms of the senses. Aristotle also deals with the intellect (*De an.* bk. 3) and emphasizes that one may treat the intellect in a way parallel to that of perception. But it is clear that there exists a difficult relationship between the senses, the soul and their functions. Despite their affinity Aristotle never tires of pointing out that they are different. Of particular importance is the concept of actuality which "serves ... to distinguish the potentialities which a living thing has from the potentialities for motion and change possessed by inanimate bodies".¹⁰

⁷ I here summarize a more complicated argument about the role of writing which exceeds the scope of the present investigation. See for further references W. J. Ong, *Orality and Literacy* (London-New York, 1982; repr. 1988).

⁸ The cross-references in both works make it clear what the different motives and subjects of the treatises are. At *De sensu* 439a6 ff. he refers back to the *De anima* where he spoke of the function (τί τὸ ἔργον) of the senses in general and how each sense organ actualizes in relation to the object (τί τὸ ἐνεργεῖν καθ' ἕκαστον τῶν αἰσθητηρίων). In the *De sensu* he describes the nature of the sensibles *per se* to explain how they are to activate the perception (440b28-29; cf. 445b1-2). For the emphasis on the sensory objects in Aristotle's theory, see Sorabji (1979). On the concept of *phantasia* see Schofield (1978).

⁹ On the methodological aspects of this approach compare Barbotin (1954) 48.

¹⁰ Hamlyn (1986) p. x. See esp. *De an.* Γ 8.

That is why the crucial difference between the animate and the inanimate world is repeatedly emphasized.¹¹ Animals are in a way defined by sensation.¹²

Theophrastus' views on perception have their basis in the Aristotelian doctrine, in which perception, thinking, and understanding characteristically belong to the domain of the physical phenomena.¹³ As motion was the all-pervading characteristic of the physical world,¹⁴ this was one of the major issues in Aristotle's physical theory; in general — i.e. the inanimate world included — he dealt with it in his *Physics* (*Phys.* E-Θ), for the animate world the peculiar aspect of *self-motion* is one of the major subjects of the treatise *On the soul* (*De an.* A 2-3). The fundamental discussion of motion in his *Physics* (repeated at *De an.* Γ 10, compare *PA* A 1.641a34 ff.) therefore also contains references to perception. In *Physics* 7 Aristotle discusses three kinds of motion (243a36 ff.), viz. that which causes locomotion, that which causes alterations, and that which causes increase or decrease. Using the basic distinction between motion caused by a mover either outside the thing moved or in it (self-motion), Aristotle treats locomotion (*phora*, *kinêsis kata topon*) first; he explains that there is nothing between mover and moved, i.e. it is a continuous process based on direct contact.

For alteration (*alloiôsis*) which is treated next (244b2-245a11) the process is similar and sensation is brought in as a (typical) example of qualitative change. Alteration occurs in virtue of the senses being affected in their so-called affective qualities (*pathê*), "for in a way the senses undergo alteration, since actual perception is a motion through the body in the course of which the sense is affected in a certain way".¹⁵ This implies, Aristotle adds, that the animate is capable of every kind of alteration of which the inanimate is capable, but not conversely (they cannot change in respect of the senses). Alteration

¹¹ See e.g. *De sensu* 436b11-13, *PA* 666a34 f. τὸ μὲν γὰρ ζῶον αἰσθήσει ὥρισταί and below, Ch. 5.2.2. Compare *Problemata* book XVI, entitled "Problems connected with inanimate things" as opposed to book XVII "Problems connected with animate things".

¹² *De an.* 433b30; 434a30, b7-8; for Theophrastus, cf. Prisc., *Metaphr.* 20.9 Bywater [= fr. 282.26 *FHSG*].

¹³ Cf. *Ar.* *PA* A 1.641a17-b10 where it is argued that the *physikos* is entitled to a treatment of the soul, even if not soul in its entirety.

¹⁴ See e.g. *Phys.* B 1.192b8 ff.

¹⁵ *Phys.* H 2.244b10-12. (Rev. Oxf. Tr.). On this passage see now R. Wardy, *The Chain of Change* (Cambridge 1990).

takes place “through the body”, but occurs in the affective qualities which form the distinctive features of bodies (244b5). They are affections of some underlying quality: “thus when things become hot or sweet we say that they are altered”. In the process it is the extreme of the thing altered which is together with the extreme of that which changes. In short, motion, alteration and the animate are treated simultaneously, and the upshot is that perception, and thus psychology, is clearly a part of Aristotelian physics.

The advantage of Aristotle’s system is that his description of nature aims at (and often reaches) a conceptual unity by using abstract concepts such as motion and a small number of causes and principles in explaining the natural processes.¹⁶ Within the framework defined by teleology and the four causes a fundamental coherence appears, which gives all the living and lifeless things in the world their place and purpose. The immaterial character of the soul, which he regarded as the formal cause, did not preclude its belonging to physics. Aristotle holds that the soul is something incorporeal (414a19), but cannot exist without body: “the soul is a kind of actuality and principle of that which has the potentiality to be such”.¹⁷

The further details of the process of sensing are described as follows. The process of sensing involves motion(s), bridging the gap between organ and object.¹⁸ These motions start in the heart, which is the centre of the sensory/perceptive abilities.¹⁹ In the course of perceiving the object and the organ, which are potentially alike, are brought together so that in the act of perception these become actually alike. Aristotle has thus succeeded in combining the two principles adopted before him (like-by-like and contrast) into one explanatory description through the concepts of potentiality and actuality, and the idea of a permanent substrate which acquires and loses qualities.²⁰

The conditions for sensation to occur are roughly these: (a) the stimulus coming from the object must be received by the sense organ in an unaffected (‘pure’) state before sensation occurs since the organ

¹⁶ As we will see, this far-reaching coherence constituted an intrinsic cause of conflict and dissent with earlier thinkers, whose theories fall short of theoretical and substantial scope in comparison to Aristotle’s. See also T.K. Johansen, *Aristotle on the Sense-organs* (CUP 1998) 20-1 on consistency of theory of perception in Aristotle.

¹⁷ *De an.* 414a27 f. Cf. Rist (1966) 19.

¹⁸ E.g. *De an.* 413b21-23. Cf. *Phys.* 244b5-245a11.

¹⁹ *De somno* 456a6. Cf. n. 25.

²⁰ *loc. cit.* above nn. 15 and 18.

can become numbed and insensitive (*De an.* 429a31-b2; cf. *DS* 19); (b) excess of impulse may cause damage (424a2-6). (c) A certain ‘relevance’ of the stimulus to the organ is required (418a24f.; 419b9), and (d) a medium is needed, since direct contact between object and organ is denied by Aristotle. It is present for sight (the transparent, 438b15), hearing (air, 419a32), smell (nameless, the quality common to air or water, 419a32f., cf. 421b9 ff.) and taste (422a8 ff., esp. 16). Touch, which is labelled “indispensable” (434b11) is an exception in this respect.²¹

Perception being a “proportion” (426b3 λόγου τινὸς ὄντος τῆς αἰσθήσεως, cf. b7) the organ itself is considered a “mean” (424a2-7) which can perceive the extremes present in each class of sensibles (445b23-24, cf. *DS* 2, 4). It is the form only that is received (B 12.424a16-17) and the species of each class are limited (445b24 ff.), although not always easily determined (421a7-10; 423b32f.). Each organ has its specific objects and touch plays a role in all of them.²² The special relation of organ and object explains the selectiveness of the perceptive activity. Stimuli are passed on to the soul, which perceives through the help of the body (436b6-7; 437a2-4). Aristotle is not very clear in describing *where* exactly the sensations are perceived and interpreted, but we must assume that the heart is the place where the central activity is found.

Aristotle also postulates ‘common sensibles’, qualities common to all objects (size, form, rest, and motion), which are perceived by all the senses. This aspect is connected to the epistemological question of how mistakes in perception can be explained. Aristotle argues that perception of the special objects is true “or liable to falsity in the least possible extent”.²³ But perception of aspects which are incidental to objects admits of mistakes, “for we are not mistaken on the point that there is white, but about whether the white object is this thing or another” (428b21f.). In conjunction with these physiological processes

²¹ “we perceive objects of touch not through – οὐχ ὑπὸ – the agency of the medium, but simultaneously with – ἅμα τῷ – the medium”, 423b12-17. See Sorabji (1979) 85 ff. and below on Theophrastus.

²² Cf. *HA* A 9-11, 15; *De an.* Γ 12-13. Aristotle argues that the sense of touch is essential to living beings and even related to intelligence (*De an.* B 9.412a22-26), although it takes more to explain man’s superiority (cf. Beare, 200f.).

²³ Tr. Hamlyn. *De an.* Γ 3.428b18 f. ἡ αἴσθησις τῶν μὲν ἰδίων ἀληθὴς ἐστίν ἢ ὅτι ὀλίγιστον ἔχουσα τὸ ψεῦδος.

certain effects of sense objects such as pleasure and pain are described as part of sensation; this illustrates the wider application of the term *aisthêsis*. All sensory motions start in the heart, a state of affairs which according to Aristotle is supported by observation as well as reasoning.²⁴ Pleasure and pain are not themselves alterations, but when coming into being are accompanied by alterations.²⁵

Although it is sufficient for our present purposes, this necessarily brief summary of Aristotle's account of perception glosses over a considerable number of problems, some of which were already recognized in antiquity.²⁶ Theophrastus undertook to clarify some problems, as we will presently see. The value of Aristotle's theory lies in the material he provides to fill in the gaps of our fragmentary knowledge of Theophrastus' views. What also emerges from this brief description is the technical nature of the discussion with a highly developed vocabulary. This aspect constitutes an important factor in the clash of the conceptual framework of the Peripatetics with that of the earlier *physiologoi*.

1.2. *Theophrastus on Perception*

It has been argued that the method of Theophrastus marks a shift of balance in the Lyceum towards a more concrete level of inquiry. Regenbogen already stated this: "So verstärkt sich bei Theophrast die Tendenz auf Sichtbarkeit, Greifbarkeit und Anschaulichkeit, die dazu führt, abstrakte Darlegungen schwieriger Art zugunsten anschaulicher Ausdrucksweise zu vermeiden".²⁷ However, the indications in some of the surviving works give good reason to credit him with a balanced view on theory and practice.²⁸ He displays a critical attitude,

²⁴ Cf. Ar. *PA* Γ 4.666a11-b1 ἔτι δ' αἱ κινήσεις τῶν ἡδέων καὶ τῶν λυπηρῶν καὶ ὁλῶς πάσης αἰσθήσεως ἐντεῦθεν ἀρχόμεναι φαίνονται καὶ πρὸς ταύτην περαίνουσαι. On the wider meaning of αἰσθήσεις see Solmsen (1965), Lloyd (1991) chs.10 and 13.

²⁵ *Phys.* H 3.247a10-17. See also Ph. Webb in *Hermes* 110 (1982) 25-50.

²⁶ For a more elaborate discussion see Beare, Hicks (1907) introd., Ross (1961) 12 ff., Hamlyn (1961) 5-30. A full overview of the literature on sensation and psychology can be found in Barnes (1979) 179 ff. The main points and some problems regarding the epistemology are now conveniently discussed in Taylor (1990) 137-142.

²⁷ Regenbogen, col. 1554.14-18. But this picture, which has dominated the views on Theophrastus' thought for almost a century, is potentially misleading. The state of the evidence may very well point to "Anschaulichkeit", but this should not give the impression that Theophrastus lacked the ability for speculative thinking.

²⁸ For some restrictions see Gottschalk (1967) 25.

questioning obscurities and looking for further solutions. This interpretation seems — generally speaking — also valid for his method and points of doctrine. Theophrastus' greatest quality seems to have been to think through a theory in its smallest details, with Aristotle's doctrine as a point of reference or departure.²⁹

From what we know of Theophrastus' *Physics* the same objective of coherence is reflected in the plan he seems to have had for his work. Yet there are also indications that Theophrastus could no longer be certain of a comprehensive system encompassing the whole of nature.³⁰ His metaphysical view on the presence of (some degree of) disorder in our world bears witness to his conviction that teleology has its limits.³¹ In fact, we see in his botanical works that he had a particular eye for the anomalies in the phenomena, which he tries to accommodate in the Aristotelian framework whenever possible.³²

From two important sources it is fairly certain that his writings on the soul and perception constituted the fourth and fifth book of his *Physics*.³³ The reconstruction of the first five books was already undertaken by L. Philippson (1831), who pointed to those passages in the ancient commentators (mostly Simplicius) where references to these books were made.³⁴ From the references to physical principles and motion (κίνησις) these were probably treated in books 1-3.³⁵ But a full attribution of subjects to the rest of the *Physics* (presumably eight books)

²⁹ See the passage from Boethius quoted in Ch. 2, p. 57.

³⁰ Cf. Regenbogen, col. 1554: "Es bereitet sich mit T. im Philosophen ein Gelehrtentypus vor, der gerade mit dem wachsenden Erkenntnisumfang eine leichte Resignation bezüglich der Möglichkeit letzter synthetischer Erkenntnisse verbindet".

³¹ *Metaph.* 7a19-b9, 10a21 ff. R.-F. See Repici (1990) 182 ff. and also Mansfeld (1992c) 331-333, van Raalte, *Theophrastus' Metaph.* (1993) "Introduction".

³² See Vallance (1988) and my remarks in *Mnemos.* 46 (1993) 107.

³³ Themistius, *In de anima* 108.11 Heinze (*CAG* 5.3) mentions "the fifth book of the *Physics* or the second of the *On* (the) soul" which implies that books four and five contained his treatment of the soul. Priscian, *Metaphr.* 22.33f. Bywater also refers to the fifth book when expounding Theophrastus' views on the soul and phantasia. On Priscian's sources see his *Solutiones in Chosr.* 42.3-7 Bywater (*CAG* suppl. I.2).

³⁴ L. Philippson's remarks (1831: 84-85) have remained unnoticed ever since (except by Regenbogen, col. 1396), which is especially significant when seen against the importance the reconstruction by Brandis (1860), Usener (1858) and Diels (*DG*) acquired, in which some confusion over the titles for individual books blurred the issues (see also Ch. 7). Regenbogen's suggestions (Regenbogen, col. 1397) were taken up and enlarged by Steinmetz (1964) 10-13. For a parallel case of a post-Aristotelian physics (Eudemus) see Sharples and Baltussen in *RUSCH* vol. 11.

³⁵ References are preserved mostly in Simplicius (see fr. 137 nos. 1-3 *FHSG* with further reference to individual fragments). Cf. Laks (1998a).

remains arbitrary.³⁶ What is clear however is that Theophrastus followed the main plan of Aristotle's *Physika* (in a general sense), with the difference that it comprised fewer books.³⁷

Theophrastus wrote a considerable number of works on psychology and physiology, of which only a fraction survives.³⁸ His special interest in tastes and smells is clear from the work *On odors* (Fr. 4 W.³⁹), many titles in D.L. and the long passages in the botanical works.⁴⁰ Indirectly we may also learn something about his views from the Peripatetic treatises *On colours* (περὶ χρωμάτων) and *On things heard* (περὶ ἀκουστών). Although it is uncertain whether these are by Theophrastus himself, they may be attributed to the period when he was scholarch of the Peripatos or immediately after this, and are therefore likely to contain elements of his teachings.⁴¹ On his theory of perception and epistemology we have material in later works ranging from Sextus Empiricus (2nd cent. AD) to the Middle Ages.⁴² We have a considerable amount of information on his discussion of perception and the soul from the sixth century commentator Priscian of Lydia, a contemporary of Simplicius, and some remarks on problems concerning the soul from Themistius' paraphrase of Aristotle's *De anima*. These two sources pose specific difficulties of interpretation, because of the mixture of Aristotelian and Platonic material in the former, and the often brief references to the difficult subject of the potential/ actual intellect in the

³⁶ On the number of books see D.L. V. 46, and Steinmetz (1964) 11-13, 335 ff.; *id.* (1969) 247 [on bks. 3-5]; Regenbogen, col. 1396; Fortenbaugh in *FHSG* I (1992) 277-80. For some pertinent criticisms of Steinmetz's reconstruction see Gottschalk (1967). See also Sharples (1998).

³⁷ On φυσιολογία see also fr. 142 *FHSG*.

³⁸ In the Laertian catalogue we find several titles of works on physiology (some of which are still extant): περὶ αἰσθήσεων α' (*on the senses*), περὶ ἐπιλήψεως α' (*on epilepsy*), περὶ ἐνθουσιασμοῦ α' (*on divine inspiration*), περὶ ἰλλίγγων καὶ σκοτώσεων α' (*on dizziness*), περὶ κόπων α' (*on tiredness*), περὶ λειποψυχίας α' (*on failing of the soul*), περὶ μελαγχολίας α' (*on melancholy*), περὶ παραλύσεως α' (*on paralysis*), περὶ πνιγμοῦ α' (*on suffocation*), περὶ παραφροσύνης (*on derangement*), περὶ ὕπνου καὶ ἐνυπνίων α (*on sleep and dreams*), περὶ ὄψεως α' β' γ' δ' (*on vision*), περὶ ἰδρώτων α' (*on sweat*). Theophrastus was followed in these topics by Strato (see the many identical titles in D.L. V 59-60 and the comments by Capelle *RE* IV A (1931), 283, lines 20-22 and 50-56).

³⁹ New edition by Eigler-Wöhrle (1993).

⁴⁰ See Regenbogen, cols. 1400-1402; 1422 ff.; Wöhrle (1985); Sharples in *RUSCH* II (1985) 183-204.

⁴¹ That the *De color.* contains Theophrastean material was persuasively argued by Gottschalk (1964). On the authorship of the περὶ ἀκουστών (Strato?) see Gottschalk (1968).

⁴² See fr. 264-327 *FHSG*.

latter.⁴³ In the *opuscula* only few explicit observations on perception occur. Accordingly many details remain unknown and the available material can give us only an incomplete idea of his theory.

Theophrastus' views on perception as preserved in these sources reflect his constant effort to add details to and improve upon Aristotle's general or tentative observations. We may start with some interesting remarks on his methodology when he is questioning weak points and suggesting alternatives.⁴⁴ Themistius gives a characterization of the style and approach concerning Theophrastus' treatment of the potential and active intellect:

[...] it would take too long to quote what follows, although it is not stated at length (μὴ μακρῶς εἰρημένα), but too concisely and shortly (λίαν συντόμως τε καὶ βραχέως), in expression at least; for with regard to the facts it is full of many problems, many careful enquiries, and many solutions. It is in the fifth book of the *Physics*, the second of the *On the soul* and from all that it is clear that concerning the potential intellect as well they [=Aristotle and Theophrastus] find almost the same difficulties, whether it is from outside or innate ...⁴⁵

This passage reveals that Theophrastus' brevity was a mark of his personal style, and that he even succeeded in proposing solutions.⁴⁶ It is unfortunate that Themistius chose to summarize the already succinct notes of Theophrastus.⁴⁷ We cannot be sure whether the sequence 'problems, enquiries, solutions' is a schematisation of Themistius. If not, it could reflect a dialectical approach as expressed in

⁴³ For some general remarks on these difficulties see Steel (1978) 8-9 on Priscian and Barbotin (1954) 50-53, 57 on Themistius. Cf. next note.

⁴⁴ I here follow and elaborate upon Regenbogen, col. 1398f. who already pointed to the most significant passages in Priscian and Themistius on Theophrastus' method.

⁴⁵ The text, which concerns Ar. *De an.* B 5 and Γ 4, is in *CAG* vol. 5.3, 107.30-108.18 Heinze [= fr. 307A *FHSG*]; here I quote 108.8-14. I note that Wimmer (Fr. 53b.20-21) omitted the important remarks on methodology from this passage (as Regenbogen, col. 1398 points out).

⁴⁶ It is hard to tell what Themistius means by "solutions", and one would be very curious to know what kind of solutions Theophrastus suggested. It would be welcome evidence against the general belief that Theophrastus "was an incisive critic, but his criticisms rarely provide the basis of new solutions to the problems to which they relate" (Lloyd, 1973: 10). On brevity cf. Ch. 2.3 n. 104 and text thereto.

⁴⁷ But then he had indicated that he never intended to give a full commentary, see *In de an.* 108.35-109.1 Heinze (*CAG* vol. 5.3): τὸ μὲν ἀποφαίνεσθαι περὶ τοῦ δοκοῦντος τοῖς φιλοσόφοις ἰδίας καὶ σχολῆς ἐστὶ καὶ φροντίδος, ὅτι δὲ μάλιστα ἂν τις ἐξ ὧν συνηγάμεν ῥήσεων λάβοι τὴν περὶ τούτων γνῶσιν Ἀριστοτέλους καὶ Θεοφράστου.

Aristotle's *Metaph.* B.⁴⁸ Apparently Aristotle and Theophrastus found the same difficulties with this subject — an indication of the problematic nature of this topic. It shows that Theophrastus was not always 'improving' upon his predecessor when it came to *solving* problems.

This information on Theophrastus' method is supported by a passage in Priscian:

After this Theophrastus sets out the views of Aristotle ... (then he) makes further distinctions (ἐπιδιαρθροῖ τε τὰ εἰρημμένα) and elaborates further difficulties (καὶ ἐπαπορεῖ τινα) ...⁴⁹

Thus the clarification of Aristotle's words almost always leads to further enquiries, even if much of it is accepted.⁵⁰ These features of his approach raise the question in what form his teachings on nature were laid down. From Priscian's remarks one could easily think of Theophrastus' remarks as learned *scholai* to Aristotle's writings in a form which resemble the question and answer scheme.⁵¹ Since he and Eudemus were the first to develop the ideas of their teacher, it does seem possible that many of his observations and explorations did not

⁴⁸ This famous passage was mentioned in Ch. 2.1, p. 43, 45.

⁴⁹ Priscian, *Metaphr.*, p. 36.6-9 Bywater [= fr. 319 *FHSG*]. Priscian states his own method as follows (*Metaphr.* 7.20-23 Bywater): "our present project is ... to develop a clear statement about ... the (views) of Theophrastus, both *if he adds anything beyond what Aristotle has handed down*, to bring it together, and *if, in raising difficulties, he offers us anything*, to work it out as well as we can." [italics mine; tr. *FHSG*]. This programme is adhered to, as is clear from the way in which Priscian formulates these suggestions, which most of the time are indeed regarded as *additional* comments (ἐπάγει, ἐπισκήπτει, ἐπιφέρει, ἐπισημαίνεται) and queries (ζητεῖ, 14.16, 19.22 et 24.20 Bywater; ἀπορεῖ, 27.8 Bywater et Simpl. *In de an.* 286.32 Hayduck) which either demand clarification (ἀφοριστέον δὲ ... 15.6 Bywater) or a solution (ἐπιλυόμενος, 9.33 Bywater). Priscian once even points out that Theophrastus did *not* add anything, but merely mentioned the point of the intermediate in perception (14.25 Bywater). All this seems to confirm the impression of Theophrastus' succinct and complementary approach, and it is natural to assume that this was his own guideline in his work on these subjects.

⁵⁰ Compare Themistius, *In de an.* 3.5 (*CAG* vol. 5.3 p. 108.22) [= fr. 320A.4-5 *FHSG*]: ταῦτα μὲν ἀποδέχεται, διαπορεῖ δὲ κτλ.

⁵¹ Further indications for this are the discursive nature of his remarks, which strongly resembles the internalized and theoretical kind of argumentation (cf. Ch. 2); e.g. (i) when he excludes a sophistic turn (οὐ γὰρ οὕτως ληπτέον ὥς οὐδὲ αὐτός, ἐριστικὸν γάρ; the term is in both (!) Them. *In De an.* 107.34 Heinze and Priscian, *Metaphr.* 25.28 Bywater [= fr. 307A.5 and 307B.1 *FHSG*]), or (ii) when he brings forward a hypothetical objection (opponent) with the aim of clarifying the point at issue (ὁμοίως ἔχειν λέγοντι ... ἀντιλέγειν ἔστιν, Prisc., 17.28-29 Bywater). [= fr. 277B.72f. *FHSG*; for a parallel expression cf. *CP* 6.8.2 ὁ λόγος ὁ ἀντιλεγόμενος].

go beyond the diaporetic type of inquiry in those areas in which Aristotle had sufficiently explored the major difficulties.⁵²

1.3. *Doctrine: A Shorthand Guide*

(a) *Importance of sense perception*

Theophrastus' doctrine can now be outlined.⁵³ In explaining physical phenomena he attributes to nature the virtue of possessing order and regularity, i.e. of "doing nothing in vain" (*CP* 1.1.1; 2.1.1; 4.4.2; *Metaph.* 10a23).⁵⁴ This also applies to perception. He attributes a crucial role to perception in his philosophy,⁵⁵ most clearly exemplified by two fragments, viz. 301B and 143 *FHSG* [= fr. 13 and 18 Wimmer].

In the first, not unproblematic, fragment Clement of Alexandria reports that "Theophrastus said that perception is the starting-point of belief, for starting-points extend from this to the reason in us and the understanding".⁵⁶ An important and basic distinction is set up between the territories of perception and reasoning which has a parallel in *CP* 1.21.⁵⁷ "the difference between hot and cold, since it does not fall to the province of sense but of reason, is subject to dispute and denial, like everything else that is decided by reason". This distinction between the provinces of sensation and reason can in fact be taken as one between observation and interpretation. Theophrastus took these to be complementary stages (cf. *Metaph.* 9b9-20).

⁵² See also Ch. 2.3.

⁵³ Compare Brandis (1860) 284 ff.; Zeller (below n. 55); Regenbogen, cols. 1553-54; Stratton, introduction; Moraux (1942) 2-5; Wöhrlé (1985) 154-59; Baltussen (1998) 167.

⁵⁴ More parallels exist, see Repici (1990) 184 n.4. For Aristotle see Ross (comm. to *De an.*), pp. 56-57.

⁵⁵ Most (but not all) relevant passages from the works and fragments of Theophrastus himself were already collected in Zeller, *Ph.d.Gr.* II.2, 813-15 (one should at least add *CP* 1.24). It would exceed the scope of our present investigation to give a comprehensive account of Theophrastus' theory of sense perception and thinking. For a recent contribution see Sharples (*op.cit.*, above n. 40).

⁵⁶ Θεόφραστος δὲ τὴν αἴσθησιν ἀρχὴν εἶναι πίστεως φησιν· ἀπὸ γὰρ ταύτης αἱ ἀρχαὶ πρὸς τὸν λόγον τὸν ἐν ἡμῖν καὶ τὴν διάνοιαν ἐκτείνονται (fr. 301B *FHSG*). Clement's use of the term πίστις (faith) must of course be treated with caution, but there can be no doubt about the importance of sense perception.

⁵⁷ Overlooked by Zeller, *loc. cit.* (above note 55). Cf. De Haas (1998) and Laks (1998).

In the second fragment Simplicius reports Theophrastus' view from the latter's *Physics*. There is a certain resemblance to the view just quoted. Simplicius states that according to Theophrastus one should track down the truth about physical principles on the basis of the senses and the sense objects [fr. 143 *FHSG*]:

... because one cannot speak about any single thing without reference to motion (for all natural things are in motion), nor about the things in the middle region without (reference to) alteration and being affected, when we are speaking in view of these and about these *we cannot do without perception, but should try to observe starting from these, either taking the phenomena in themselves or startingpoints from these if there are any more appropriate and prior to these.* (it. mine)⁵⁸

Both fragments emphasize that one should proceed from perception. There is however no remark on the truthfulness of the senses. We have some evidence that Theophrastus further explored the different stages of the acquisition of knowledge, but it does not admit of a clear-cut interpretation.⁵⁹ What can be said is that he attached a lot of weight to self-evidence (*to enarges*, Sext. Emp. *M* 7, 217) and that he seems to have linked assumption (*hypolēpsis*) and conviction (*pistis*) — the final judgement being the prerogative of reason or the intellect.

(b) *The relationship senses-objects*

The senses have a double-edged relation with the objects. On the one hand Theophrastus sometimes speaks of their kinship (Priscian, *Metaphr.* 15.25-6 Bywater), on the other he adopts the (Aristotelian) idea of opposition (organ and object being actually contrary but with the potential to become alike, Priscian, *Metaphr.* 1.3-8 Bywater). The first aspect must have troubled him, because his analysis seems to be looking for a comprehensive way of dealing with all the senses.⁶⁰ Another basic thesis is that like is not affected by like (Priscian, *Metaphr.* 16.4-5 Bywater).⁶¹ At this point Theophrastus does not question the

⁵⁸ οὐχ οἷόν τε καταλιπεῖν τὴν αἴσθησιν, ἀλλ' ἀπὸ ταύτης ἀρχομένους πειρᾶσθαι χρὴ θεωρεῖν, ἢ τὰ φαινόμενα λαμβάνοντας καθ' αὐτὰ ἢ ἀπὸ τούτων εἴ τινας ἄρα κυριώτεραι καὶ πρότεραι τούτων ἀρχαί. [tr. *FHSG* slightly modified]. Cf. Regenbogen, col. 1397; Laks (1998). On (physical) principles see also Ch. 6.2.

⁵⁹ See Huby (1989) 115f.

⁶⁰ Prisc. *Metaphr.* 15.28-31 Bywater [= fr. 277B *FHSG*] Note esp. the terminology which points to his effort to find a general explanation (ζητεῖ οὖν διὰ τί μὴ καὶ ἐπὶ τῶν ἁλλῶν ὁμοίως ... ἢ καὶ ἐπὶ τῶν ἁλλων ὁμοίος ὁ λόγος); *ibid.* 10.16 Bywater, καὶ οὐκ ἄτοπον, φήσιν, ἀλλὰ καὶ ὁμολογούμενον τοῖς ἁλλοις.

⁶¹ See also below on the *DS* and compare e.g. *Ign.* 42 τὸ γὰρ ὅμοιον ὑπὸ τὸ ὁμοίου

(Aristotelian) idea of alteration, but rather tries to clarify the process by asking what ‘becoming like’⁶² exactly means: it is a process in which the organs, while being moved, become alike “in respect of the forms and ratios without the matter” (κατὰ τὰ εἶδη καὶ τοὺς λόγους ἄνευ τῆς ὕλης, cf. Ar. *De an.* B 12). But he has trouble in accepting that shape is perceived by means of motion.⁶³ Theophrastus also follows Aristotle on the question of contact (ἄφῃ). No direct contact occurs in the process of perception (Priscian, *Metaphr.* 7.23-24 Bywater), but rather a kind of analogy applies to taste and touch as with sight and hearing (18.7-12 Bywater).

(c) *The individual senses*

The main points — additional to and distinct from Aristotle’s — are as follows. Color, the specific object of sight, is brought to the eye *via* light; light is the activity of the transparent, which is also the vehicle of color. In the process of vision the disposition of the organ is of importance, as is the transparent, which is “its matter”.⁶⁴ Seeing an object, i.e. perceiving colors and common sensibles (form, size, motion), occurs when the visible reaches the eye and produces a qualitative change in the eye. In smelling, which can occur without breathing, the air becomes mixed and “in a way affected”.⁶⁵ In hearing at least three stages can be distinguished: first a blow (a necessary element of the process, 16.14-15 Bywater) occurs which shapes the air near the ear (14.10-12 Bywater)⁶⁶; next the movement is passed on through the medium of the outside air to the air inside; and finally the movement is interpreted by the sensitive part of the soul. Taste and touch receive a

ἀπαθές and fr. 176 FHSG.

⁶² ἐξομοίωσις Prisc. *Metaphr.* 1.8 Bywater; *ibid.* line 2 and 7 ἐξομοιοῦσθαι. The term is probably Priscian’s.

⁶³ As Stratton already noted, Stratton 26 with reference to Priscian, *Metaphr.* p. 21 Bywater.

⁶⁴ The transparent is discussed extensively, see Priscian, *Metaphr.* I. 17-18, 20-21, 23, 29 [fr. 278 FHSG]; Simplicius, *In De an.* 136.20-9 Hayduck [fr. 279 FHSG]. For further details and some problems in connection with Theophrastus’ theory of sight in Priscian’s report see Baltussen (1998).

⁶⁵ Prisc. *Metaphr.* 14.10-12 Bywater [fr. 277A FHSG]. Cf. *De odor.* 9; 10; 45.

⁶⁶ For the shaping of the air (τοῦ ἀέρος ... σχηματιζομένου) cf. Ar. 446a24 ff. It is also found in the *De audib.* 800a3-4 where it is criticised — one of the reasons to assume this work is not Theophrastean (Gottschalk, 1968: 447-49). The shaping of the air plays a large part in Theophrastus’ *De musica* (fr. 716 FHSG); it is not found in the *DS*.

separate treatment because of the special problem of how to understand these more direct forms of perception and their medium (7.20-28 Bywater = 275A *FHSG*).

One other point worth mentioning is that Theophrastus seems to have created new terms for the powers common to certain elements as a parallel to the “diaphanous” (τὸ διαφανές), for example air and water share the “transodorant” (τὸ δίοσμον), while the “transsonant” (τὸ διηχές) conveys sounds.⁶⁷ It seems that he was particularly interested in the transmission (δί-) of the ‘affective’ motions to the organ.⁶⁸

This thumbnail overview shows how closely Theophrastus follows Aristotle, yet never fails to take on latent problems and to question certain details. Many other topics (e.g. active and potential intellect, reflections, the number of the senses) are discussed by Priscian (and Themistius) as Theophrastean material, but it will be better to treat some of these when Theophrastus’ views in the *DS* are at the centre of our attention.

2. *Tracing Theophrastus’ Views in the DS*

Modern commentators have often pointed to the impersonal and ‘objective’ style which Theophrastus employs in his attacks on pre-Aristotelian views.⁶⁹ This remarkable reserve in his treatment complicates the interpretation of the criticisms and could be mistaken for a lack of commitment. It will be important for our understanding of the beliefs of the author of the *DS* to assess the presuppositions he uses while formulating the criticisms.⁷⁰ We will see that Theophrastus takes great pains to keep out his own views.

⁶⁷ These terms are preserved in Philoponus, *In Ar. De anima* B 7.419a33 (*CAG* 15 354.12-16 Hayduck [= fr. 277C *FHSG*]), and in Priscian, *Metaphr.* 15.34-16.1 Bywater [fr. 277B *FHSG*]. There is, however, some reason for doubt whether all these terms were coined by Theophrastus himself (see Appendix A, section 2), even if Theophrastus had a habit of creating neologisms in botany (Strömberg, 1937: 161-164, “Kompositionenbildung”, “Wortschöpfung”).

⁶⁸ See Prisc. *Metaphr.* 14.16-7 Bywater (fr. 276 *FHSG*).

⁶⁹ E.g. Stratton, 53 speaks of a “marvellously impartial report”, a view which is corrected *ibid.* 60 ff.

⁷⁰ I depart from Stratton’s approach in this respect because his reconstruction – if that is the right word – of Theophrastus’ doctrine is, I believe, methodologically unsound. The introduction to Stratton’s edition I regard as over-synthetic.

When compared to the testimonia for Theophrastus' views discussed in the previous section, the evidence one may obtain from reading the *DS* is scarce and mostly indirect. In those instances in which Theophrastus states (or seems to state) his own views more explicitly we hardly find a remark going beyond what Aristotle said. There is a number of traces in the text which may be regarded as Aristotelian in the sense that they can be compared or traced back to Aristotle. What kind of traces will be set out in the following brief overview, arranging them according to their increasingly 'Peripatetic' nature.⁷¹

2.1. *Technical Terms and Other Details*

Certain types of questions reveal an Aristotelian background. They are typical Peripatetic elements of research. The most frequent and recurrent question-type is that of the cause, (e.g. διὰ τί, πῶς⁷²), which aims at clear and complete explanations.⁷³ We also find the inquiry into a quality (ποῖον).⁷⁴ This question belongs to the standard list related to the categories (cf. n.72). These questions gave structure to the inquiry and provided an hierarchy of issues (parallel to the hierarchy of the categories, i.e. in their relation to reality).

The form of a question-type can be that of the *problēma* (disjunctive, 'whether...or', e.g. *DS* 13, 72, 81). But whereas in Aristotle it evaluates two options and usually presents the preferred possibility in the second part of the question⁷⁵, in the *DS* this seems not to be the case. Theophrastus is exploring the *consequences* of Empedocles' remarks on the role of fire (*DS* 13, repeated at 14). In *DS* 72 perhaps the second option ("he should say whether they are composed of what is like *or*

⁷¹ For a more detailed treatment of this problem and possible implications see Baltussen (1998).

⁷² διὰ τί in *DS* 21, 40, 53, 82 (compare fr. 277B.13f., 24f. *FHSG*; πῶς in *DS* 9, 14, 17, etc.).

⁷³ On these question-types in later doxographies see Mansfeld (1990b) and (1992). Theophrastus here goes into some detail in questioning the theories. Interestingly, the passages on Democritus (49-58) are particularly full of questions (cf. n. 72 and Ch. 5.4.2).

⁷⁴ *DS* 7 ποῖα τις ἐστὶ (sc. ἡ ὄψις), *DS* 81 ποῖον and fr. 277B.14, 50 *FHSG*.

⁷⁵ It may be a mere didactical feature there, but it must be noted that the question is one of the basic scientific questions in Aristotle's *APost*. On the point of preference see Bonitz, *loc. cit.* (Ch. 2, n. 148). A third possibility may at times be brought forward, cf. *DS* 14 and *CP* 6.1.1-2.

unlike <the substance of the sense organ>“) seemed more probable to Theophrastus, but since he does not elaborate we cannot be absolutely sure. A hint at preference for the second option is probably found at *DS* 81, where Theophrastus blames Democritus for not clarifying “whether the colour black comes about on account of the (non-passability) of the eye or because of some other reason”.

These questions clearly exemplify Theophrastus’ regular use of the aporetic form of argument. In making the search for the διὰ τί (“for what reason”) a dominant feature of his method, he implicitly focuses on causes and makes these — instead of the τί (the “what”) — his primary concern.⁷⁶ Its occurrence in the *DS* may be one of several indications that the treatise played a role in Theophrastus’ teaching practice.

Although the style of the *DS* leaves no doubt about the authorship — it is closer to Theophrastus’ diction than to that of any other known writer — we have less clear traces of Aristotelian doctrine. There are almost no authorial statements in the verb forms in the first person singular or plural. Those we do find are not very helpful in determining anything specifically Peripatetic.⁷⁷ Only one (singular) case might give an interesting clue. In *DS* 89, while commenting on Plato’s views on the affections, Theophrastus says “we look for their essence (*ousia*) rather than the ensuing effects (τὰ παθὴ τὰ συμβαίνοντα) these things have on us”.⁷⁸ This ζητοῦμεν clause seems to formulate adequately the general aim of a treatment of perception. The intention expressed in it would square with the remark in *DS* 60 where the discussion of the true account of sense objects is more or less postponed.

Does his terminology give us a lead on technical terms and concepts of Aristotelian origin? The terms we do find are almost always left unexplained. This suggests that the text as we have it was meant for a readership (audience) familiar with Aristotelian doctrine (this would

⁷⁶ The διὰ τί question as found in the *Problemata* originated in the practice of the Peripatetic school. See Flashar (1983), 341-346 (esp. 344).

⁷⁷ E.g. *DS* 17, 31, 37, 42, 47. Theophrastus’ careful way of expressing himself is marked by terms such as ὅσως, μᾶλλον, and εἰκός. They flag his presence in the *DS* and point to the presence of more implicit and almost unintentional allusions to Peripatetic ideas. I have discussed this in more detail elsewhere (*op.cit.* above n. 71)

⁷⁸ Thompson (1941: 110) has a point when he compares *CP* 6.1.2 where Theophrastus tries to “investigate and establish the reality or objective nature ... of two classes of sense objects, flavors and odors.” On *CP* 6 see also Ch. 4, n. 66.

exclude teaching purposes to ‘external’ audiences). We should note the following traces of Aristotelianisms. There is a reference to the doctrine of the *mean* (i.e. that all contraries have a middle position)⁷⁹, and to the perceptive processes as being in conformity with nature (*kata/para physin*).⁸⁰ He seems to use the notion of *inherence* (καθ’ αὐτό)⁸¹ and the concept of ‘natural place’ (*DS* 83).⁸² Also, he often speaks of the disposition (*diathesis*) of the sense organs (*DS* 4, 19, 35, 39, 64, 72).⁸³ Finally, we find mention of qualitative change (ἀλλοίωσις)⁸⁴ and of mixture⁸⁵ (*krasis*, cf. *DS* 32, 35; 39, 41, 46 twice; 58).

As we can see from these examples, terms of Aristotelian origin are either present in or lurking behind the critical remarks. It is clear that the critic is not aiming at a full systematic discussion of the topic from his own point of view. The purpose of this document may have been a quite limited one, e.g. to provide an overview for further elaboration or research. It is tempting to conclude that the *DS* was meant for use within the school only.⁸⁶ At this stage of the investigation, however, this conclusion must remain hypothetical until other aspects of the *DS* have been examined in detail.

⁷⁹ τοὺς υπερβάλλοντας ψόφους, *DS* 29. Close to Ar. *De an.* 424a2 ff. διὸ τοῦ ὁμοίως θερμοῦ καὶ ψυχροῦ, ἢ σκληροῦ καὶ μαλακοῦ οὐκ αἰσθανόμεθα, ἀλλὰ τῶν υπερβολῶν, ὡς τῆς αἰσθήσεως οἷον μεσότητος τινος οὔσης τῆς ἐν τοῖς αἰσθητοῖς ἐναντιώσεως; cf. *De caelo* 290b32 ff.

⁸⁰ *DS* 31, 43, 70, 83, 84. Cf. Ar. *Pol.* 1253a9, *De an.* 432b21.

⁸¹ *DS* 22. It is also in *DS* 4, 69. Compare Aristotle’s remarks on this issue, *De an.* B.9, 421b17-19, 422a1-4, *De sensu* 444a25 f., *Resp.* 473a24 f. He held that some animals who do not breathe *can* smell (although he admitted there is a difficulty of establishing which faculty actually did, 444b15 ff.).

⁸² Cf. O’Brien (1984) 221-23, 248-66 and Long (1996) 348 n. 9.

⁸³ Since perception is due to a certain correspondence between organ and object. Stratton (20 and n.) rightly points to a similar use of the term in *CP* 6.2.2 Δῆλον γὰρ ὡς ἐν τῷ αἰσθητήρῳ τίς ἐστὶν ἑτέρα διάθεσις. For the importance of the force of the stimulus and initial disposition of the sense organ cf. *De an.* 429a31-b2.

⁸⁴ See *DS* 2, 23, 31, 63, 72; cf. Heidel (1906) n. 80. As a species of motion qualitative change is a term used to describe the change of one element into another. It is distinguished from “change”, μεταβολή (cf. *DS* 14 twice) and “locomotion”, πορεία; for the distinction see also above n.14 (and text thereto). In Aristotle’s theory of perception it marks the second stage of the actual moment of perception when things which are different (but potentially similar) become alike. Theophrastus’ approach is close to Aristotle’s *GC A* 7-8.

⁸⁵ Although not a Peripatetic concept in origin, it became a technical term in Aristotle. It does in fact play a role in his own theory of tastes and smells. See Stratton, 37; *CP* 6.3.1 and Sharples (1985) 185f. On the composition of the body cf. Aristotle, *EN* 1154b12, *HA* 589b23, *PA* 673b30.

⁸⁶ For research or teaching or both (see Baltussen 1998, conclusion).

2.2. *Judgmental Elements*

Can we retrieve more from the text by looking at the judgemental side of his arguments? Surely an author reveals himself in the views he puts forward as his own. This touches upon the problematic aspect of Theophrastus' style: his detached way of writing often makes it very difficult to assess his committal to the views at issue. A marked feature of Theophrastus' approach is the use of logical (or: formal) arguments combined with empirical considerations. Theophrastus is interested in both the consistency of the theories and their relation to reality. The first point will be dealt with in chapter 5, the second may be taken up here.

First, a detail, small but significant: there is a restricted use of the words with the root ἀληθ- (*DS* 22, 33, 60, 90). I propose to take this an indication that it is not the author's aim to formulate a (positive) theory of sensation, because he only deals with individual points when referring to the 'truth' (the state of affairs in reality), either clarifying his objection by empirical evidence (*DS* 22, 90) or using an Aristotelian assumption implicitly (33⁸⁷). In this context his remark on Democritus' and Plato's views on sense objects (*DS* 60) is of particular interest: "which one of the two [basic positions] is true cannot be argued". This statement is not unproblematic but taken in this way it could pertain to the scope envisaged in the second part of the work: could it be read as a promise to deal with this question elsewhere? I believe it can and I will return to this point at a later stage of the argument.

Next, a misconception. It is a standard view that Aristotle and Theophrastus did not try to understand, but only distorted the views of their predecessors we can be brief. The situation is much more complex than has been assumed. One could argue that there is evidence in the *DS* — which is absent from the fragments studied by McDiarmid⁸⁸ — which clearly points the other way. Thus Theophrastus' interpretative effort is, I suggest, reflected in a number of 'hermeneutical'

⁸⁷ κατά γε τὸ ἀληθές, "verily, in strict truth" with reference to the view that neither pain nor pleasure accompanies perception. A further indication that the assumption is Aristotelian is the term ἵσως at the beginning of the subordinate clause and the next sentence in which the capacity of thought to judge is mentioned (cf. *Ar. De an.* 432a15-17 τῷ τε κριτικῷ, ὃ διανοίας ἔργον ἐστὶ; thought is closely connected to intelligence, and *De an.* 415a8 λογισμὸν καὶ διάνοιαν; 421a20-25, 433a18f.).

⁸⁸ McDiarmid (1953) 85 ff.

remarks, which try to make sense of the statements he is analyzing.⁸⁹ More importantly, they show that Theophrastus *makes a distinction* between original wording and interpretation. Rephrasing of the tenets is a way of gaining a better understanding of what his predecessors were talking about. Clearly rephrasing was regarded as a legitimate tool for interpretation, partly because the formulations of earlier thinkers were no longer easily understood in their original form.⁹⁰

Thirdly, in interpreting tenets Theophrastus also shows caution. Thus he does not seem to share Aristotle's strong dislike of poetical language and metaphors.⁹¹ Even if our evidence for Theophrastus on metaphor is scant,⁹² certain remarks on the Presocratics depending on language may be taken as signs of careful exegesis. I give two examples. (i) At *DS* 4 he formulates a tentative conclusion after quoting from Parmenides' poem (on the identity of perceiving and thinking): "perceiving and thinking, then, he speaks of *as if* identical" (τὸ γὰρ αἰσθάνεσθαι καὶ τὸ φρονεῖν ὡς ταὐτὸ λέγει). Since he is explaining the actual wording of Parmenides, his qualifying ὡς is rather telling. (ii) At *DS* 10 he reproduces the words of Empedocles on the mixture of the four elements which is best in the blood. Theophrastus infers, Empedocles must mean that we think (best) with the blood (compare *DK* 31B107).

Fourthly, strong judgments are hardly found. The clearest examples concern Diogenes' idea that air is central to perception (*DS* 21) and Empedocles' suggestion that keenest smell is related to inhaling (*DS* 21). With both these two thinkers he uses the adjective εὐήθης ("naive") and the verb διαμαρτάνειν ("to be mistaken, wrong", *DS* 24,

⁸⁹ See e.g. *DS* 35 (ἔοικεν ὁμοίως λέγειν), 54 (ἔοικε βούλεσθαι λέγειν), 72 (ἔοικε συνηκολουθηκέναι); compare "he tries to say/reduce/etc.", e.g. *DS* 2 (πειρᾶται ἀναγεῖν), 7 and 40, 49 πειρᾶται λέγειν, 27 πειρᾶται διαριθμεῖν; also "he wants to ...", *DS* 46 βουλόμενος ἀνάπτειν, 48 προθυμούμενος ἀνάγειν; 66 βούλεται ... λέγειν, 55 βουλόμενος λέγειν, 54 ἐπιχειρήσας, 91 βουλόμενος. For Aristotle see Ch. 2.2.

⁹⁰ On metaphor and obscurities in language see *Top.* Θ.3, and next note. For Theophrastus see n. 92.

⁹¹ In the *Top.* Aristotle is especially interested in unequivocal language; he ranges metaphor under the obscurities of language which stand in the way of a clear definition (cf. *Top.* Z. 1-2, esp. 139b32-35). In rhetoric metaphor is allowed if appropriate, *Rhet.* Γ.2, 1405a8-12, cf. Γ.4. See also next note.

⁹² Explicit reference to metaphor is found in *Met.* 5b2 Ross-Forbes. It speaks of "similarity and metaphor" as opposed to the literal meaning of a statement. Compare also *Phys. op.* fr. 2 (Anaximander) ποιητικωτέροις οὕτως ὀνόμασιν αὐτὰ λέγων.

48).⁹³ A connected feature while expressing his doubts and suggesting alternatives or ‘better’ explanations is Theophrastus’ use of the optative. This mode of expression is quite appropriate for his evaluative arguments, since they are rather formal and hypothetical.⁹⁴ In the *DS* this feature can even serve to distinguish report from criticism.⁹⁵ It is also regularly used by Aristotle for elaborating the implications and consequences of statements.⁹⁶

In this connection we should also take into account some of the terminology used to qualify the logical consistency of the argumentation under discussion. In cases where not the meaning of terms or propositions is criticised, but the relationship between statements, e.g. terms such as εὐλογον, ἀνὰ λόγον, κατὰ λόγον, οὐκ ἄλογον. Especially the first term aims at determining the logical quality of reasoning independent of empirical considerations, as LeBlond has shown long ago: the (Aristotelian) term expresses the ‘rationalisation of a fact which is regarded as plausible to the mind in conformity with what one might expect’.⁹⁷ This element of appropriateness plays a significant role in the training of the dialectician, in particular with regard to the respondent; that is why the ability to foresee the implications and consequences was stressed in our section on the debating procedures (see Ch. 2.1). LeBlond has pointed out that the term occurs frequently in dialectical contexts, in which it is used to qualify logical coherence.⁹⁸ In addition, εὐλογον is equivalent to οὐκ ἄλογον (*DS* 34) and opposed to ἄλογος (*DS* 54) and ἄτοπος.

It will be useful to give some examples and further clarify the use of these terms. For εὐλογον we may compare:

⁹³ In a dialectical context (*Soph.El.* 33, 183a14 ff.) non-syllogistic reasoning is called εὐήθης in cases where propositions used are either unsupported (ἄδοξα) or untrue (ψευδῆ), because such a type of reasoning falls short in some respect (ἐλλείπει τι).

⁹⁴ The optative (with ἄν) became current in Attic at that time for making careful or polite statements about matters that were not doubted. See E. Schwyzer, *Griechische Grammatik*, II. Syntax (1950) 329. Cf. nn. 95-6.

⁹⁵ As is pointed out by McDiarmid (1960) 29. See also next note.

⁹⁶ Cf. the remarks by Hicks to *De an.* 403a9 [my italics]: “The optative with ἄν expresses the logical consequence, as often, e.g. 403a11, 12, 406b4, where it follows 406a31 εὐλογον, and 32 εἰπεῖν ἀληθές.” See also Hicks *ad* 406a13.

⁹⁷ LeBlond (1938) 9: “la rationalisation d’un fait, qui est déclaré satisfaisante pour l’esprit, conforme à ce qu’on pouvait attendre”. It should be noted that among the examples from Aristotle and Theophrastus (“Appendice” and bibliography) LeBlond does *not mention* those from the *DS*.

⁹⁸ LeBlond (1938) 16.

(i) *DS* 15 (logical consistency) ἔτι δὲ εἰ καὶ μὴ ἐναρμόττοι τὸ ὅμοιον, ἀλλὰ μόνον ἄπτοιτο, καθ' ὅτιοῦν εὐλογον αἰσθησιν γίνεσθαι; “moreover, if the like would not fit exactly <the pores>, but only graze them, that it would be *natural* (to assume) that sensation would arise from whatever cause”

(ii) *DS* 18 (consistency with the facts) ἀτόπως δὲ καὶ ὅτι τὰ μὲν ἡμέρας, τὰ δὲ νύκτωρ μᾶλλον ὁρᾷ· ... νῦν δὲ πάντες ἅπαντα μεθ' ἡμέραν μᾶλλον ὁρῶσι πλὴν ὀλίγων ζώων· τούτοις δ' εὐλογον τοῦτ' ἰσχύειν τὸ οἰκεῖον πῦρ, ὥσπερ ἔνια καὶ τῇ χροῇ διαλάμπει μᾶλλον τῆς νυκτός. “(It is unreasonable that he says that some animals see better at night, some during the day.) [...] In fact, all see everything better during the day except for a small number of animals; but for these *one could expect* that their own fire has this power, as for instance some shine brighter with their surface during the night”.

In the second example there is a clear opposition between the *ἄτοπως* of the initial sentence of the paragraph and *εὐλογον* in the evaluation further on; it introduces Theophrastus' explanation of the exception formulated to counter Empedocles' claim. In other words, his more general rule “all see everything better during the day” (note the emphatic *πάντες ἅπαντα*) is not hampered by a few exceptions since for these too he has a *reasonable* solution.⁹⁹ (More examples will be discussed in Ch. 5 and 6.)

In conclusion we may note that in these cases the empirical considerations play a large role in the criticisms, but are consistently accompanied by arguments of a more ‘logical’ nature. The explanations at issue can only be accepted if their relation to reality is sufficiently clear and correct.

3. Conclusion

We must now pull together the different threads developed in this chapter. We have given a general characterisation of how Theophrastus follows Aristotle in his theory of perception by summarising the main points of doctrine of both thinkers (3.1). As was to be

⁹⁹ For the doctrine of shining objects only visible at night (i.e. phosphorescent objects), see Beare 57 n.2 and 64f. For some examples cf. Aristotle, *HA* 536a17-20 δοκεῖ δὲ διαλαμπουσῶν τῶν σιαγόνων ἐκ τῆς ἐπιτάσεως ὥσπερ λύχνοι φαίνεσθαι οἱ ὀφθαλμοί· ἡ γὰρ ὁχία τὰ πολλὰ γίνεται νύκτωρ; *De sensu* 437a31, *Meteo.* 370a20-22.

expected, we saw that as a rule he starts out from Aristotle and tries to clarify or elaborate specific points which — at least according to him — admitted of multiple interpretation. However, Theophrastus' independence is simultaneously revealed by the questions he raises with regard to certain points. His aporetic approach is not merely a form of presentation, but a mark of his philosophical attitude.

In addition, we uncovered traces of Peripatetic positions in the *DS* (3.2). Thus we were able to establish that (a) there is no lack of commitment of the author to Aristotelian doctrine in his positions and evaluations, but (b) that they are almost never explained. Thus it is very likely that in the *DS* Theophrastus has the discussions in Aristotle at the back of his mind. They seem to loom large behind his reports, acting as 'criteria' for his interests. It would however be wrong to conclude that he is only interested in those aspects in which the Presocratics seemed to give views similar or close to Aristotelian doctrine. The wealth of material he provides goes against such an inference. Being a keen observer he will point out any similarities or original ideas he comes across.

In the following chapters we will direct our attention to the formal features of the *DS*, discussing the criticisms of Plato (Ch. 4) and of the Presocratics (Ch. 5). The major question at the back of our minds is whether logic or doctrine is the dominant factor informing the argumentation in this work. Only after a detailed analysis of the (long neglected) parts of *DS* to clarify this point can we decide whether we are entitled to interpret all criticism as serious opposition. The answer to this will probably lie somewhere between the following two extremes: either (1) the refutations are merely logical mind-games and meant for exercise (formulating objections which are theoretically possible), or (2) they reflect substantial disagreement and take their form from a dialectical approach. To determine in what way (and to what degree) these must be seen as a case of applied dialectic or as gymnastic ('logical') dialectic, we will focus on the formal features of the argumentation, all the time keeping Aristotle's dialectical prescriptions in mind.

CHAPTER FOUR

THEOPHRASTUS' *DE SENSIBUS* AND PLATO'S *TIMAEUS*

Plato's cosmological treatise *Timaeus* is a difficult work.¹ Apart from being an impressive and original synthesis of existing explanations in natural philosophy it combines the seemingly incompatible elements of rational discourse with mythical elements.² This paradox causes interpretive problems which exercised the minds of many later thinkers and made it a much read and much discussed work soon after it was published. The attention the *Timaeus* immediately attracted is evidenced by continual reports of comments (of some sort) on and criticisms of the work from near-contemporaries onwards.³ We know of Aristotle's comments on several issues of the *Timaeus* in different contexts.⁴

Theophrastus was among the early 'commentators'⁵ on Plato's cosmology. The reports and criticisms in *DS* are his most extensive references to the *Timaeus* we know of, but we also find allusions to it outside *DS*.⁶ It seems natural to assume that Theophrastus made a

¹ My remarks on the early 'history' of the *Tim.* (which is not fully retraceable) draw on Guthrie, *HGPh.* V 241f. and Runia (1986) esp. 38-57 which I have partly summarized. Cf. also the informative remarks by Barnes (1991) 121 ff.

² On the scientific content cf. Runia (1986) 375; on myth, *ibid.* 39f.

³ Both inside and outside the Academy (see Runia 1986, 38 ff.). The most famous example of a controversy is the argument over the creation of the cosmos which started "among Plato's immediate followers" (Guthrie, *HGPh* V 302), e.g. Aristotle, Speusippus, Xenocrates, and Crantor. Theophrastus also took part in this debate, see fr. 241B *FHSG*, where he seems to follow Aristotle, *De caelo* A.10 (cf. *DG* note to 485.17; Runia 1986, 482 n.37). That such criticisms and attempts at clarification could immediately lead to 'philological' solutions, i.e. manipulations, is discussed by Whittaker (1973) 389n., who indicates that this topic needs further investigation. See further on 'ideological emendations' Dillon (1989) 54 ff.

⁴ Discussed by Cherniss (1944) and Claghorn (1954). See also section 4.4.

⁵ I use inverted commas because there is some controversy over the status of the early 'comments' on the *Tim.* (see Runia 1986: 47, 53, 56n. for further references). On the status of such 'commentaries' see also section 4.1.2.

⁶ E.g. in the fragment cited below in n. 17. For a full list see Appendix C.

thorough study of the *Timaeus* at some point in his life. It is on this assumption that the *Timaeus* (henceforth *Tim.*) and *DS* are commonly regarded as a 'source' and an excerpt thereof respectively. This seems correct, although the inaccuracy of parts of Theophrastus' report in *DS* has not yet been explained satisfactorily. Critics often speak of his approach as highly selective and incomplete.⁷ This raises the question of what Theophrastus' criteria were for selecting material from the *Tim.*⁸

This point needs careful consideration. At first glance it is striking that paraphrases close to 'quotations' in *DS* stand side by side with puzzling omissions and (mis)interpretations. It is understandable that Theophrastus preferred to produce a compressed account of the relevant passages of this difficult dialogue. We know that he used different kinds of sources in the case of other philosophers (Anaximander, Democritus, Diogenes).⁹ Existing explanations are marred by the methodological flaw that they try to extrapolate general results from a restricted analysis and apply them to the *Tim.* passages as a whole. The thesis of an 'interpretatio Aristotelica' merely explains certain individual discrepancies.¹⁰ Moreover, simply assuming that Theophrastus, like many ancient authors, is 'quoting' from memory

⁷ A cautious (and rather neutral) statement is found in Eichholz (1965) 22: "Theophrastus was acquainted with the *Tim.*" (with reference to *DS*, *Metaph.* and *Frgg.* 28, 29 Wimmer). The most overstated example is McDiarmid (1959a) 60 (on whom see below): "he has either overlooked or rejected the evidence of the *Tim.*" See also above n. 3.

⁸ Until recently this point was not overly discussed in the learned literature. The two short papers by McDiarmid (1959a) and Skemp (1969) are confined to a small number of passages (cf. A. Laks, 1983: 114n and my nn. 10, 31, 54, 58, 98). A more extensive evaluation is now presented in Long (1996), on which see Complementary Note (2).

⁹ E.g. Aristotle's reports, summaries, the 'original' writings or copies of these (cf. below nn. 105-6). On the quotations in the case of Anaximenes and Anaximander, cf. Kahn (1960) 17f., 21; McDiarmid (1953) 132f.; Mansfeld (1989) n. 33. For Diogenes, see Laks (1983) 113f.

¹⁰ Thompson (1941: 107 ff.) in his analysis of the *CP* 6 openly sides with the Cherniss camp and attempts to show (not without overstating his case) that Theophrastus is deliberately omitting certain statements made by Plato in order to suit his own argument (and refutation) better. McDiarmid (1959a: 60 ff.) argued that in *DS* 83 and 88 Theophrastus' summary and interpretation can only be understood fully if we take the Aristotelian discussion of the same topics into account. Although McDiarmid's argument is not unsound, not all cases allow such a solution. Furthermore, there are passages in Aristotle which Theophrastus does not follow, despite their direct relevance to his discussion. His conclusions therefore certainly call for further investigation (see below section 4.4).

also leaves open a number of problems.¹¹ Although on occasion misquotations can be explained from this practice common in antiquity, too often they are judged according to modern standards of philological accuracy. But obviously these are inappropriate as a point of reference since we are dealing with a very different situation regarding the function and use of texts. The notion of 'quotation from memory' cannot be conclusive for explaining variety in texts and should be used with caution.¹²

The particular importance of the *Tim.* for the present study should be obvious. Where in other cases an almost total loss of the original texts makes a comparison virtually impossible, in this case we may gain a well-founded insight into Theophrastus' way of excerpting and using material from another text. Our understanding of Theophrastus' general approach to Plato can be enhanced by instancing details from other works of Theophrastus, although, as we will see, some inconsistencies will remain. The subject of this chapter, then, will be to study Theophrastus' procedure in selecting and reproducing the Platonic text, and to see how this influences his assessment of Plato's view. First, it will be useful to assess the importance of perception to Plato and his position as a natural philosopher (4.1). Next, we will review certain discrepancies and omissions which indicate that Theophrastus had very specific criteria for selecting from the *Tim.* (4.2). Here we might ask whether Theophrastus is selecting with a view to a systematic exposition. In order to find out more about Theophrastus' use of his sources we will at times pay attention to the ancient excerpting techniques, which were emerging at the time, and assess their influence on the quality of the transmission. Thirdly, the criticisms will be studied as to their order and formal characteristics (4.3). And finally, as much of our overall argument rests on the general assumption that Theophrastus follows Aristotle, we will briefly consider the question of Theophrastus' (in)dependence in relation to Aristotle, both as a reporter and

¹¹ Cf. Taylor *apud* Stratton, n. 205: "presumably he [=Th.] is quoting from memory". For a famous example of misquotation in Aristotle see E.M. Cope/ J.E. Sandys, *The Rhetoric of Aristotle* (Cambridge 1877), II, 103.

¹² Whittaker 1989, 64 has pointed out that "faulty memory in the case of short quotations, and carelessness in the case of longer passages do play their role"; he in addition notes that "in the indirect transmission of philosophical texts ... an equally frequent and fertile source of corruption (if this be the appropriate term) can be found in the persistent inclination of the scholars and writers of the ancient world to introduce into their quotations *deliberate alteration*." (ital. mine).

critic (4.4). The present chapter does not aim at an exhaustive analysis of the relationship between Theophrastus and Plato as philosophers, but is meant as a case study of the working procedures in *DS* with particular attention to the quality of the excerpts.¹³

1. *Plato in DS*

At first glance Plato's presence in *DS*, which deals with a subject from physics, may seem odd. Theophrastus surely knew that Plato was not a *physikos* ('natural philosopher') in Aristotle's sense of the word. But Plato's detailed description of the structure of the natural world could only be regarded as a treatise on nature (a *περὶ φύσεως* as it is also called in D.L. III. 60).¹⁴ Another reason to take his cosmology seriously may have been that Plato's role as a natural scientist was immediately of great influence, despite the disclaimer he himself formulated in the cosmological account in the *Tim.*¹⁵ By referring to it as an "account that bears a likeness to reality" (*εἰκὼς λόγος*) Plato not only anticipates certain criticisms as to its truth-value, but makes the more fundamental point that man can not hope to obtain real knowledge by studying the phenomenal world only.¹⁶ In short, Plato's attitude towards physics may be called ambiguous.

¹³ Yet caution is needed in extrapolating results regarding Plato to other parts of Theophrastus' critical evaluations, which deal with the Presocratics (*pace* Long 1996, 362).

¹⁴ On this 'second title' cf. Mansfeld (1992) 399 f. with n. 59.

¹⁵ That he was reluctant to be regarded as a *physikos* is clear from his careful statements on the scope and value of his 'resembling account' in the *Tim.* (cf. *Phd.* 65 ff.). His search for stable and true knowledge (the Forms) made him cautious in his approach to the unstable nature of the sensible world – an attitude which has been rightly called an "indifference to confrontation with empirical fact" (Vlastos, 1975: 91). On Plato's 'return' to the phenomenal world see Runia (1986) 39f. who agrees with Cherniss that it involves a "change of emphasis, not a change of mind" (p. 40 n.10).

¹⁶ His cosmological account in the *Tim.* is continually qualified by remarks on the status of the account, emphasizing that his explanation of the phenomenal world cannot be expected to go beyond the level of plausibility. G.E.R. Lloyd has aptly stated it thus (1968: 90): "While his more provocative remarks denigrating the use of the senses should be interpreted as suggesting merely that observation is inferior to reason, and not as suggesting that observation is completely worthless, their effect was still undoubtedly to discourage empirical investigations". On *εἰκὼς λόγος* see Witte (1964) 1-16, Donini (1988) 37 ff., Runia (1989) 435-443. Good observations also in Vlastos (1975) 93 and note.

We know now that his *provisos* (which admittedly contain a good deal of Socratic irony) were not heeded by his followers and critics, no doubt because in certain respects his cosmology *was* a serious contribution to natural philosophy. Indeed we see that in his account of the world of Becoming Plato goes to considerable lengths to illustrate the reasoned (teleological) order in the universe as made by the Demiurge. In doing so he goes beyond his purely ethical and metaphysical motives behind the work by showing a great interest in the phenomenal world and its rationale, even if from an ontological point of view it is inferior to the 'real world' (Forms). But it is clear that Plato's explicit opinion about perception did not mislead Theophrastus into ignoring the theory. We even find an (implicit) acknowledgement of Plato as a *physikos* by Theophrastus in Simplicius (*In Phys.* 26.8-11) where he is described as having been involved in a physical inquiry into the phenomenal world, despite his main metaphysical interests.¹⁷ He may be following Aristotle in his judgement on Plato, but there is sufficient evidence to think that he had a view of his own.¹⁸

It could be argued, then, that the way in which perception is presented in the *Tim.* is reason enough to take Plato seriously. But for a proper understanding of how Plato's thorough analysis of the primary elements, their powers and manifestations, and the language describing these gave him a place among the *physikoi*, we need to take some preliminary steps. To this end I shall summarize Plato's presentation and explanation of perception within the work, before taking a look at Theophrastus' treatment of the *Tim.* passages. It will make us more aware of the fundamental differences to Theophrastus' theory.

1.1. *Plato on Aisthêsis*

The description of the role of *aisthêsis* in the *Tim.* is carefully structured, starting at *Tim.* 43a-c where it is mentioned for the first time. It is the

¹⁷ See Simpl. *In Phys.* 26.8-11: Πλάτων τῇ μὲν δόξῃ καὶ τῇ δυνάμει πρότερος τοῖς δὲ χρόνοις ὕστερος καὶ τὴν πλείστην πραγματείαν περὶ τῆς πρώτης φιλοσοφίας ποιησάμενος ἐπέδωκεν ἑαυτὸν καὶ τοῖς φαινομένοις ἀψάμενος τῆς περὶ φύσεως ἱστορίας. [= *Phys.op.* Fr. 9 = fr. 230 *FHSG*].

¹⁸ Cf. Claghorn (1954) 135, G.E.R. Lloyd (1968) 79-84, and Mansfeld (1989) 144f. Theophrastus favoured a metaphorical interpretation of the genesis of the world, see Taurus *ap.* Philopon. *Adv. Procl.* VI 21.27.5 [= fr. 241B *FHSG*] 'Ο δὲ Θεόφραστος εἰπὼν ὅτι "ταχὺ ἂν γενητὸν λέγοι σαφηνείας χάριν..." (cf. *ibid.* VI 8.27).

part of the account where Plato deals with the works of Reason in the universe (*Tim.* 29-47), which is strongly teleological, as opposed to the things that come about by Necessity (i.e. the bodily and blind causation, *Tim.* 47-86).¹⁹ In the description of the creation of man (*Tim.* 44d-45b) the younger gods implant the human soul into the body. Plato next introduces sight and hearing (*Tim.* 45-47) because they are the means by which mankind can observe the universe and thereby obtain knowledge of the order in it. Despite the wider scope of the passage as a whole, he obviously deals with perception in terms of physiology — and may thus have attracted Theophrastus' attention.

In the description of the process of seeing (*Tim.* 45b3-d2) we may distinguish three stages: first, non-burning fire, akin to daylight (or: sunlight), comes from the eyes as a body (*sôma*) after the middle part of the eye is made dense, so as to produce a body-like ray; next, it sets out to meet its like outside the eye (the coalescence)²⁰; a third stage marks the transmission to the movements thus produced to the soul.²¹ That is the sensation "which we speak of as seeing" (45d1-2). Some remarks about seeing at night and a very technical digression on mirrors end the first part of the cosmological account (up to 47e).

The second passage where Plato mentions perception and establishes a connection with cosmology is when he speaks of the physical foundations of the universe (*Tim.* 51-68). Plato first explains the geometrical structure of the four regular elements (fire, air, water and earth, 53c-56c), next the laws of upward and downward transformation among these (56c-57c), and then proceeds to treat their sub-varieties.²² It is in this last part that the name of each of the mixtures is given, which they received in relation to the effects they have on us (59e-60b).

The actual treatment of παθήματα ("affections" connected with perception) begins at 61c. Plato first makes the fundamental point that it would have been better to discuss sensation and the sensitive soul-

¹⁹ Cf. Cornford (1956) 32f.

²⁰ ἐν σῶμα οἰκείωθ' ἐν συνέσσει. It is labelled συναυγεία in the *Placita* (Aët. IV 13.11).

²¹ The same happens with the movements of the air in the process of hearing. Theophrastus only preserves the second description in complete form, see below nn. 69-71 and text thereto. On the role of the soul in sensation, cf. Plato, *Phil.* 31-34.

²² On size, 57c-d; on kinds and compounds, 58c-61c; The section between 57d and 58c deals with motion and rest. It is meant to explain why the elements do not withdraw to separate regions as a result of the attraction of like to like (cf. *Tim.* 45c4). See Cornford (1956) 239 f. and Morrow (1968) 12-28.

part first before dealing with the *pathēmata* "insofar as they are sensitive", but he makes it clear that he cannot discuss them simultaneously and for the sake of convenience will presuppose these elements of the theory (ὑποθετέον πρότερον) and come back to them later.²³

Plato's distinction between "affections of the whole body" (κοινά) and those peculiar to certain parts of the body (ἴδια, cf. 65b4, c1-2) emphasizes the mechanical basis of his theory. The relative size and penetration of the particles determine their effect on the senses.²⁴ We should note that touch is "not a sensory function *sui generis*".²⁵ Tactile impressions, such as hot and cold, hard and soft, heavy and light, and rough and smooth belong to the *koina* (61d5-65b3). But pleasure and pain are also counted among these; they are even the "largest and last <kind> of the common affections concerning the body as a whole" (64a2). At this point Plato connects these affections common to the whole body with the capacity of being moved easily or not. In an earlier passage (cf. 56e-d, 57d-58c) this capacity was explained as a fundamental characteristic of the nature of movement in the phenomenal world. For Plato movement is related to heterogeneity, whereas rest belongs to a situation of homogeneity. Thus the never-ending motion in the universe is explained by a permanent struggle for balance. This mechanical explanation of motion also serves to explain why the elements do not gather into four groups as a result of the attraction of like by like.

Plato's treatment of sense objects (*aisthēmata*) and affections (*pathēmata*) is not strictly divided into a treatment of the (internal) process of perception and its objects.²⁶ By the term *pathēma* Plato means the effect one body has on another. In sensation this is the effect of a body (consisting of elements) on a sentient body when object and organ 'interact'.²⁷ But Plato would like to avoid referring to an object as 'substance' because this suggests it has a permanent (ontological) status, whereas the only permanent factor which underlies these

²³ These remarks exemplify Plato's awareness of the difficulties of exposition: the 'reprises' and anticipations could account for some problems in the interpretation of the chronology of the genesis of the world.

²⁴ See Hahm (1978) 74; Brisson (1997) 307 ff.

²⁵ Solmsen (1968) 612-13. For Theophrastus this is unacceptable, see p. 106.

²⁶ Cf. Cornford 1956, 148 n.2 who at *Tim.* 43b notes that "παθήματα can mean 'affections' of the sentient body, causing sensation in the soul, as at 42A,... or the perceptible 'qualities' of external bodies, as here and in 61C."

²⁷ See O'Brien (1984) 107 ff. Cf. Taylor (1928) 429 f., O'Brien (1997).

changes is called the “receptacle”.²⁸ It is the qualities not the receptacle that constitute the ‘bodily’ (*to sômatoeides*). This explains his emphasis on the *names* which are customarily given to the effects on the human body: the probability of his ‘resembling account’ also depends on the common usage of language describing sensations. By being consistently cautious about the effects of objects and the names we give these effects, Plato succeeds in two things: he can maintain his principle of sensation occurring in interaction (cf. *Theaet.* 157a) as well as explain “why we *feel* hot and cold, and why we *call* other things hot and cold, although the only things that in fact exist, as the constituents of the sensible world, are the primary bodies or triangles, differing in size and shape.”²⁹ From this we can see how his position as a *physikos* should be taken seriously, though in a qualified sense.

1.2. *Form and Contents of Theophrastus’ Excerpts*

It will be helpful to make some general remarks on Theophrastus’ excerpting technique, in particular to point out how restricted his approach towards the *Tim.* is. By classifying Plato’s account with the sensible objects which produce the affections in the sense organ (*DS* 59 ff.) and keeping the account of *aisthêsis* rather brief (*DS* 5-6), he holds on to the Aristotelian bipartition of sense organ vs. sensibilia, taking the Platonic description of the *pathê* as merely providing an explanation of the *effects* on the senses (see Ch. 3.1). Theophrastus’ reports combine paraphrase in indirect speech with direct quotation. Paraphrase — the more frequent form of reporting views of the Presocratics — is given credibility by inserting the occasional glosse or by suggesting that what is to follow reproduces *ipsissima verba*. Both forms are an indication that the writings of those he discusses were at his disposal. In the case of Plato his report is so close to the *Tim.* that one thinks of an accurate excerpt rather than paraphrase from memory. Accordingly we may expect to find out how the method of selecting and abbreviating the material bestows any particular coloring on the material. His critical evaluation may also be looked at from the same

²⁸ Cornford (1956) 180f. holds that the elements are “groups of fluctuating qualities ... (only just) sufficiently alike to be indicated by names”. But against this interpretation see Solmsen (1960) 345 n.35.

²⁹ O’Brien (1984) 147-151. O’Brien gives a second analysis of the aspect of name-giving (his appended “Note 8”) (see below nn. 76, 78). Cf. Hirsch (1997).

perspective. Since any inaccuracy in the résumé may give rise to misinterpretation later, it is of interest to find out whether Theophrastus follows his source or his own excerpt in his criticisms.

Previous comments by scholars as a rule concern the brevity of the excerpts or particular discrepancies. Stratton's comments on the discussion of Plato's views give a good first impression of Theophrastus' excerpting ability in *DS*. He juxtaposes passages in order to exemplify their closeness in wording and the brevity of Theophrastus' version.³⁰ While his underlying assumption is that Theophrastus used a complete text of the *Tim.*,³¹ Stratton often feels forced to criticise the accuracy and correctness of Theophrastus' report without offering a coherent explanation. The main reason for this is that Stratton focuses on the similarities between the texts: thus the peculiarities in Theophrastus' version did not constitute a problem. Moreover, he may not have given sufficient thought to the problems involved in related texts.³²

A complementary approach I would like to suggest is the following: rather than just concentrating on what Theophrastus reproduces differently, we should also try find out *what he did not reproduce*. That is to say, we should try to make the most of the textual evidence and find out whether his abridgements and selections can help to understand what he does reproduce. Are the discrepancies due to prejudice and mishaps in copying or do they force us to reconsider our assumptions regarding the form of Theophrastus' source? For our analysis it will be necessary to go into some detail, for the discrepancies are based on subtle changes and shifts of interpretation.

The discrepancies between the *DS* and the *Timaeus* (as we know it) fall into two categories. On the one hand, there is a small number of remarks present in *DS* in which Theophrastus *himself* complains about gaps in Plato's account (I label these type A). In the course of expounding Plato's views on the senses and the mechanics of perception

³⁰ On brevity see already *DG* 525; Kahn (1960) 21 n.2.

³¹ See his n. 11: "The account which Theophrastus gives ... seems to be drawn exclusively from the *Tim.* Succeeding notes will call attention to the more particular passages which he may have had in mind"; and n.19 "Theophrastus has ... kept faithfully many of Plato's own words". Accepted by McDiarmid (1959a) 59, Thompson (1941) 112.

³² The assumption that identical passages always allow the conclusion of a *direct* dependence is misleading (this *caveat* exposes a weak point in the method of *Quellenforschung* in general; I will discuss another example with regard to the later *Timaeus* reception elsewhere ['Plato in the *Placita*...' forthc.]).

Theophrastus makes a few observations which even Stratton found it hard to explain. On the other hand (and this category has remained unstudied) there are a number of discrepancies which Theophrastus does not seem to be aware of (type B). We should therefore take a closer look at both categories and consider the question how they originated. We may start with the first group, analyzing in detail how Theophrastus deals with the ‘omissions’ he reports. The second category concerns discrepancies of a more serious nature (the relation between report and criticism) and will be dealt with in two separate sections (below §§4.2–3).

The following instances of the first category are of interest.

(A.i) In *DS* 5 Theophrastus takes up the discussion of Plato’s views with the following statement: “Plato has touched upon the individual sense organs more extensively³³, yet he deals *not with all*, but only with hearing and sight” [my italics]. The functioning of the two senses is then reported. Stratton suggested that we must assume that Theophrastus’ remark holds good only for the inner (i.e. psychological and physiological) aspect of perception, discussed in the first part of *DS*.³⁴ Both the prominence and the importance of the subject in the *Tim.* support this remark. As we have noted (p. 100), Plato’s view seems to be that two rays of light fused together transmit movements which cause us to see. On account of this interaction between subject and object through kinship Theophrastus (rather unexpectedly) calls this an intermediary position³⁵ among theories of sight, viz. between those who say that vision falls upon the object and those who say that a kind of effluence comes from the object.

In the *Tim.* seeing is treated quite extensively in 45b-46a and in more detail in 67a7-c3, where Plato speaks of the organs which were constructed as “light-bearing eyes” (a further reference to 45d concerning sight and hearing is found at 64c6 and d5). It is true that

³³ *DS* 5 ἐπὶ πλέον μὲν ἦπται τῶν κατὰ μέρος.

³⁴ Cf. Stratton, nn.12, 20, 21 (see sequel to text above). The remark about the extensiveness of Plato’s account by Theophrastus himself was not much discussed by commentators. There is no comment by Schneider (1818) vol. 4, p. 516; Philippson (1831) 173; or Diels (1879); Beare 141f. follows Stratton as is clear from his translation.

³⁵ *DS* 5, ὥσπερ ἂν εἰς τὸ μέσον τιθεῖς τὴν ἑαυτοῦ δόξαν τῶν τε φασκόντων προσπίπτειν τὴν ὄψιν καὶ τῶν φέρεσθαι πρὸς αὐτὴν ἀπὸ τῶν ὁρατῶν ; cf. Stratton, n.16.

Plato's account is not complete as to the actual mechanics of the process of the three other senses (see next item, ii). But then again, at that point in the argument (i.e. 45b-46) he gives a teleological explanation of seeing and hearing, not a physiological one.³⁶ We should also note that in the same context Plato discusses a theory of mirrors (46a-c), which is absent in Theophrastus' report.³⁷ Moreover, on hearing there is no real explanation of the mechanics in this passage, but merely an account of its *telos* (*Tim.* 47c-d).

Is Theophrastus right in indicating these 'omissions'? If we take the remark to refer to *Tim.* 45-46 only, it is correct. The final remark in *DS* 6 shows that Theophrastus had the whole work in mind from the outset and postponed consideration of the sense objects deliberately. We might find it odd that Theophrastus does not mention the division Plato makes in the account between the rule of Reason (up to 47e, including sight and hearing) and "things that come about of Necessity" (47e ff.). It does not mean however that he is not aware of the overall expository principles which Plato repeatedly emphasizes. It can hardly be a coincidence that Theophrastus' division of the material between *aisthêsis* and *aisthêta* coincides with Plato's division between aspects of sensation treated teleologically and mechanically.³⁸ We know that Theophrastus was greatly interested in (the limits of) teleology.³⁹

Moreover, in *DS* 5 Theophrastus draws on two separate sections in the *Tim.* (45 and 67b). It entails a rearrangement of the source and indicates that his working procedure consisted in carefully selecting the material on the mechanics of perception.⁴⁰ It is a probable inference that the reference to *Tim.* 67b was added later, when Theophrastus came to that part of the work. This paragraph is not the only example in which material is brought together from different passages in Plato. In *DS* 85 more examples can be found, e.g. when Theophrastus discusses sound and musical harmony (cf. *Tim.* 67b + 80a-b) or when he speaks of smells (cf. *Tim.* 49c + 66d-67a). These instances strengthen

³⁶ On Theophrastus' apparent lack of awareness of the nature of the dialogue as a "probable account", see next page and below n. 118.

³⁷ Apparently a subject not of interest to the Peripatetics, given the fact that we find only few references to it in Aristotle. The term ἀνάγκη is probably borrowed from the mathematicians.

³⁸ I owe the emphasis on this point to Dr. H. Gottschalk.

³⁹ In his *Metaphysics* this is a major theme, see Ch. 3, n. 31 and text thereto.

⁴⁰ There is a striking parallel in this selective approach in Posidonius (*apud* Sextus *M.* VII 93), see Mansfeld (1992a) 185f.

our impression that Theophrastus' uses specific and selective exposition, despite wider knowledge of the *Tim*.

(A.ii) In *DS* 6 Theophrastus also points to apparent omissions in Plato's theory: "on the sense of smell and taste and touch he says nothing at all, nor does he say whether there are any others beside these, but he does give a more precise account of the objects of sense".⁴¹ Three points are raised:

(α) Plato did not discuss (the mechanics of?) smell, taste or touch; this is true in a strict sense.⁴² Stratton rightly takes this to pertain merely to the objects of the senses, not to the internal process.⁴³ In the *Tim*. we find several passages on these subjects. At 65b, for instance, Plato says he is going to discuss the special sense organs (τὰ δ' ἐν ἰδίῳις μέρεσιν), because the general affections of the whole body (*ibid.* τὰ κοινὰ) have been dealt with already.⁴⁴ This division into 'general affections of the whole body' and 'those in specific parts' is again not reflected in Theophrastus' account, though he also spoke about the contrast general-specific regarding the theory of Empedocles (*DS* 1-2; cf. Ch. 5.2). But it is possible that Theophrastus simply does not accept Plato's concept of 'tactual sensibility' as pertaining to touch. I shall come back to this point shortly.

(β) "Plato did not discuss the number of the senses"; it is interesting that Theophrastus should discuss the *number* of the senses. In *DS* this is the only time this point occurs. The Peripatetic scheme of five sense organs is apparently used as a yardstick for the theories at issue. We

⁴¹ *DS* 6, περὶ δὲ ὁσφρήσεως καὶ γεύσεως καὶ ἀφῆς ὅλως οὐδὲν εἴρηκεν οὐδὲ εἰ παρὰ ταύτας ἄλλαι τινές εἰσιν, ἀλλὰ μᾶλλον ἀκριβολογεῖται περὶ τῶν αἰσθητῶν. Cf. *DS* 91. On omissions in the later transmission see Whittaker (1989) 76 ff.

⁴² But Theophrastus discusses odors and tastes in *DS* 84-85 and admits that Plato did. Plato discusses sight in a separate section, 45a-47e; hearing is treated only generally (47c4-e2), prior to a complete list of the *παθήματα* of the bodies and their effect on the senses later on. Plato discusses qualities at 61d-64a; pleasure and pain 64a-65b; tastes, odors, sounds, colors 65b-68e. See also the diagram below (section 4.4).

⁴³ Stratton follows Beare in translating ὅλως οὐδὲν as "nothing whatever". Beare's translation however is more accurate in that he renders the nouns as actions (verbs) and adds an interpretative element [which I have underlined]: "With regard to smelling, tasting, and touching, as sensory functions, Plato (says Theophrastus) has told us nothing whatever, ..." (italics Beare).

⁴⁴ By general affections he means tactual sensibility, pleasure and pain, on which see Cornford's remarks (1956: 269 ff.) and below p. 113. Note that the notion of κοινὰ and ἴδια differs between Plato and the Peripatetics (*Tim.* 65b6). It shows how the terminology often stands between them.

must assume that Theophrastus, having mentioned the five senses (*DS* 5-6), implies that Plato acknowledged the number of the senses to be five; next he points out that Plato did not pursue the matter any further. This may reflect underlying criteria of completeness in an account of the senses (cf. § 3.2). If this is correct, he may have been thinking of the Aristotelian discussion about the fixed number of the senses.⁴⁵

(γ) Plato's account is more elaborate when it comes to objects of the senses. In *DS* 6 Theophrastus refers ahead to the account in *DS* 84-85, where the order is almost exactly the same as in the *Tim*. In what way they differ will be discussed below.

These points (A.ii, α-γ) are not terribly informative, but they show that the specific agenda underlying Theophrastus' remarks.

(A.iii) Another 'omission' according to Theophrastus is mentioned in *DS* 83. It concerns the summaries of the sense objects (*DS* 83-86) where the general order of exposition is close to the *Tim*. Theophrastus states that Plato has said nothing about them, "leaving aside the rough and the smooth as being of a sufficiently clear character".⁴⁶ However, Plato's remark "any one could see how they are to be explained" (63e9), which seems to introduce an excuse for not mentioning them, is a literary device. It is hard to understand how Theophrastus paraphrases this (perhaps misleading) remark, while at the same time failing to notice the next sentence which contains the definition(s) he claims are lacking (brief 'definition' of both qualities at 63e-64a). Plato has used similar expressions before, as he is always keen on distinguishing between the more and less important or difficult elements of his account (cf. *Tim*. 54a). His description of the rough and smooth may be brief, and even insufficient, but it exists. Theophrastus has no trace of either. So unless we charge Theophrastus with a gross oversight, we must assume that the isolated 'quotation' is caused by a selective extract.

⁴⁵ *De an.* Γ 1.424b22 ff. where Aristotle seems to argue (implicitly) against Democritus.

⁴⁶ *DS* 83 (*in fine*), τραχὺ δὲ καὶ λεῖον ὡς ἱκανῶς ὄντα φανερά παραλείπει καὶ οὐ λέγει. But compare *Tim*. 63e8-64a1: λεῖου δ' αὖ καὶ τραχέος παθήματος αἰτίαν πᾶς που κατιδὼν καὶ ἐτέρῳ δυνατὸς ἂν εἶη λέγειν· σκληρότης γὰρ ἀνωμαλότητι μειχθεῖσα, τὸ δ' ὁμαλότης πυκνότητι παρέχεται. Theophrastus may have regarded them as unsatisfactory in that they do not *explain* the effect. After all, the rough and smooth *are* mentioned at *CP* 6.1.4.

To sum up, when we look at Theophrastus' complaints about omissions in Plato's account, we find that he is not interested in the wider (epistemological) context of Plato's account. His concern is to find any remarks dealing with sensation in its basic (i.e. physiological) functions. Thus we see him selecting a statement from *Tim.* 45b-d and treating it as an isolated view, while leaving out much relevant material (*Tim.* 45c-47). Theophrastus seems to select only specific statements on physiological aspects of perception, and ignores those of a more general nature. In many cases therefore these irregularities are caused by the fact that his criteria of relevance were restricted.⁴⁷ Related subjects (the soul, the status of perception) may have been treated elsewhere.⁴⁸

We should now turn in some detail to the second category distinguished earlier, that is, those omissions Theophrastus apparently is not aware of, in order to assess their scope and importance in Theophrastus' report.

2. *The Report (DS 83-86)*

In the reports the general order of exposition matches that of the *Tim.* Theophrastus has managed to compress eight paragraphs into four of his own.⁴⁹ But within each paragraph some peculiar differences and transpositions have taken place which raise the question how these two texts are related. In the following detailed analysis a division into small sections is adopted according to the subjects as treated by Plato and reproduced by Theophrastus. After a description of the differences between source and excerpt in each paragraph the report must be set off against the criticisms.

⁴⁷ The view of most commentators is that they are caused by the *brevity* of Theophrastus' résumé, see Stratton, 52; Regenbogen, col. 1401.14f; and above n. 30.

⁴⁸ Theophrastus does not mention the role of the soul in the process of seeing (quoted above, A.i) or that of the liver in hearing (*Tim.* 67b5; *DS* 5, cf. *DS* 85 = *DG* 525.17-18). Theophrastus thinks that there is more to seeing than meets the eye: not the organ (or a part of it) is responsible for our ability to see – as he emphasizes later on against Diogenes (*DS* 47; see p. 182f.). Surprisingly he does mention the soul in his paraphrase of hearing (*DS* 5). As *DS* may have been part of a larger work (see Ch. 7), some points could have been treated in other contexts where Theophrastus thought them more appropriate.

⁴⁹ In terms of OCT text the relevant passages of the *Tim.* count approx. 12 pages (*Tim.* 45-46; 59-69), whereas in *DS* it covers about 2 pages (!).

(1) qualities (*DS* 83)

In *DS* 83 four pairs of concepts are reported in the same order as they occur in the *Tim.*: (i) hot-cold (*Tim.* 61de), (ii) hard-soft (*Tim.* 62a,b), (iii) light-heavy (*Tim.* 62b), and (iv) rough and smooth (*Tim.* 63e8-64a1). Theophrastus' version mirrors only part (beginning and end) of Plato's account. The extreme brevity is exemplified in all kinds of rearrangements, the whole excerpt being expressed in more prosaic phraseology — compare, for instance, the contrast between two kinds of particles (large and small ones) rendered by more simple forms, or the poetic descriptions which are reduced to abstract substantive forms.⁵⁰ But such adaptations, though perhaps stylistically interesting, are hardly surprising in the case of Theophrastus. We can, however, only guess at the reason for leaving out the 'middle part' of the passage, in which several concepts of interest to a Peripatetic occur.⁵¹

(a) A particular case in point of divergence from Plato is the discussion of the hot and cold (*DS* 83 ~ *Tim.* 62a-b). Theophrastus reproduces only one out of three features responsible for our experience of "that which is hot" as Plato states it (61d-e).⁵² Since Aristotle's version of this passage (*De caelo*, 306b33-307a3) also mentions only one feature, McDiarmid (1959a) argued that Theophrastus used the *De caelo* passage in an attempt to distort Plato's theory. Unfortunately McDiarmid is too keen on showing that Theophrastus is deliberately maltreating the text, and small errors occur in the process.

For example, when he is trying to explain the puzzling interpretation in Theophrastus's criticism on the basis of *De caelo*, 306b33-307a3 and 13-15, his contention that Aristotle does mention all three features cannot be correct.⁵³ We can agree with him as to the discrepancy between Theophrastus' (at times very obscure) report and the *Tim.*; or regarding the criticisms which reveal much of the actual assumptions guiding Theophrastus in his criticism. Both points can

⁵⁰ E.g. τὰ γὰρ δὴ τῶν περὶ τὸ σῶμα ὑγρῶν (*Tim.* 62a6-7) becomes simply ὑγρότητα (*DS* 83).

⁵¹ E.g. the opposite expressions παρὰ φύσιν – κατὰ φύσιν (*DS* 31, 43, 87 etc.).

⁵² A.E. Taylor (*apud* Stratton, n. 205) notes that "there is a real but trifling inaccuracy in Theophrastus' statement that Plato calls the πάθος, or sensation of the cold ῥίγος, since Plato says that both τρόμος and ῥίγος are names of the struggle between the particles and that the πάθος is called ψυχρὸν". Taylor then adds: "presumably he quotes from memory". This remark exemplifies the ambivalent attitude of Stratton and Taylor (or rather, illustrates their neglect of the matter).

⁵³ No doubt following earlier suggestions, but without acknowledging them, see e.g. *DG* 517, 526 *ad loc.*; Taylor (1917) 213-219 (nn. 230-31); *id.* (1928) 443 f.

(only in part) be explained by the brevity of the Theophrastean résumé in *DS*. But McDiarmid clearly goes too far when he maintains that in cases such as these Theophrastus “has either overlooked or rejected the evidence of the *Tim.*” (1959: 60; ‘overlooking’ seems to weaken his own assumption that Theophrastus’s report “is based on the *Tim.*”, 59). He also argues (62f.) that the meaning of the “larger” and “smaller” particles in Theophrastus’ version is not clear, since in Plato’s account this must be inferred from the foregoing description of the process of cooling (*Tim.* 59a7) as well as the general account of particles. Nor would Theophrastus be aware of the fact, McDiarmid argues, that the human body undergoes the action of the larger particles or that they do enter the body to some extent (εἰσιόντα). The remarks on size of particles is not hard to understand from the idea that they have to fit into the sensory passages. The question whether Theophrastus would have left out the other qualities of the fireparticles besides sharpness (*DS* 83), had he based his report on the *Tim.* where all qualities are mentioned, cannot be answered.⁵⁴ Even if Theophrastus’ criticism goes back to Aristotle’s, the difference remains that Theophrastus focuses on the fact that Plato’s explanation is inconsistent (*DS* 87, discussed below); but nowhere does he mention Aristotle’s point (307b7-8) that one should not assign a definite shape to the elements.⁵⁵ All we can say is that Theophrastus has indeed narrowed down the explanation of Plato.

On the whole McDiarmid seems to take it for granted that the Theophrastean excerpts were meant to be used independently from the *Tim.* text. This assumption neglects the possibility that the *DS* could have been intended as containing accessory notes for use

⁵⁴ I cannot agree with the assertion McDiarmid makes with reference to *De caelo* G.8, 306b33-307a3; 13-15 (which runs: “if the power of fire to heat and burn lies in its angles, all the elements will have this power”, tr. Loeb, Guthrie). McDiarmid claims that “although Aristotle does recognize the other characteristics of the fire particles, he, like Theophrastus, ascribes the heat of fire to its angularity alone” (64). I have been unable to find the “other characteristics” in the passage in *Aristotle* mentioned by him. I also note that the textual problem in *De caelo* III (see App. A, section 1 on *DS* 68) is ignored by McDiarmid.

⁵⁵ Compare *De sensu* 442b10 and 19-21 where the explicit point is made against Democritus: σχῆμα δὲ σχήματι οὐ δοκεῖ εἶναι ἐναντίον· τίμη γὰρ τῶν πολυγώνων τὸ περιφερὲς ἐναντίον; perhaps this could be linked to *DS* 82 where Theophrastus discusses the form of “yellow-green” (χλωρόν) and alludes to a similar argument on figure. I fail to see a connection to *Caelo* Γ 8: no specific denial of the existence of an opposite is found (rather a confirmation of it!).

alongside the original or even as lecture-notes for an audience familiar with the text.⁵⁶

(b) A second inaccuracy (if that is the right term) occurs in the definition of the 'cold' (τὸ ψυχρόν). Theophrastus picks up certain keywords (which I have underlined below) and rephrases the Platonic 'definition' in such a way that a small mistake occurs.

Tim.

τὸ δὲ παρὰ φύσιν συναγόμενον μάχεται
κατὰ φύσιν αὐτὸ ἑαυτὸ εἰς τοῦναντίον
ἀπωθοῦν. τῇ δὲ μάχῃ καὶ τῷ σεισμῷ
τούτῳ τρόμος καὶ ῥίγος ἐτέθη, ψυχρόν τε
τὸ πάθος ἅπαν τοῦτο καὶ τὸ δρῶν αὐτὸ
ἔσχεν ὄνομα.

DS 83 [= *DG* 524.23f.]

τῇ γὰρ μάχῃ τρόμον καὶ τὸ πάθει
(παχει mss.) ῥίγος εἶναι ὄνομα.

"that which is against nature being brought together is itself fighting itself according to nature and thus being pushed away in the opposite direction. He has attributed to the battle and to this shaking the name trembling and cold, and the whole dry feeling which does this got this name."

"for the battle has the name 'trembling' and the feeling <the name> 'cold'"

Theophrastus attributes the name *rigos* to the affection, but in the *Tim.* it is said of both the shivering and the cold which result from the 'battle between the particles'.⁵⁷ It seems that by strongly reducing the passage to essentials he has obscured the relation between cause and effect. He may himself have believed he had sufficiently reformulated the Platonic passage (see his final remark in *DS* 86). Regarding the problem of context we may note that Theophrastus preserves the notion of 'name-giving' so prominent in the *Tim.* without showing any awareness of its actual function in Plato (a point to which I shall return).

(c) Another point needs clarification in this connection. In Theophrastus' version of the definition of cold there is a puzzling reference to a 'circular thrust' which even McDiarmid was unable to explain. In

⁵⁶ The crucial question whether these obscurities originate in the interpretation Aristotle gives of Plato's theory is thus open to argument. The objections against Plato are part of a large refutation of all previous theories. Aristotle argues against the generation of the elements out of each other (305a33 ff.). Theophrastus himself distinguished two kinds of fire (*De igne* 44, 57; the relation between them is not clarified).

⁵⁷ Cf. n. 52.

describing cold Theophrastus says (I paraphrase *DS* 83 = *DG* 524.22-24):

(Plato holds that) something is cold whenever by their fluidity the larger particles expel the smaller and prevent them from entering in a circular process.

The “circular process” (κύκλω περιωθῆ) does not occur in the passage on hot and cold. The reference must be to *Tim.* 62a-b where Plato describes the experience we call ‘cold’ by way of compression and extension. Perhaps this process of alternating presence of small and large particles of fluids reminded Theophrastus of Plato’s description of the ‘cycle’ of respiration as described in *Tim.* 79 (but cf. 59a-b!). In that case the phrase looks like an imperfect recollection of that later passage. Theophrastus sees a correspondence with respiration as described by Plato.⁵⁸ If so, it is a remarkable piece of creative handling of the material, again showing that he had wider knowledge of the text. The difficulty then rather lies in how to explain the degree of compression.

(d) Theophrastus’ version of hard and soft seems sufficient (*DG* 524.24-5) and hardly differs in length from Plato’s.

(e) With heavy and light this is not the case: Plato’s long exposé on the relative nature of these concepts (64a-65b) is reduced to two and a half lines (*DG* 524.26-28). It does seem to extract the gist of Plato’s account, but Theophrastus later devotes a long critical paragraph to this point (*DS* 88, see §4.3 below) in which he most probably follows or takes his cue from Aristotle.

(f) When Theophrastus mentions the tactile qualities, rough and smooth (*DS* 83 end), he maintains that Plato did not deal with them (*DG* 525.1; cf. (1.b)). Apparently Theophrastus is not satisfied with Plato’s general way of defining them. Possibly Theophrastus disagreed with the definitions in the *Tim.* Plato defines roughness as a combination of hardness and irregularity, and smoothness as uniformity *plus* density. In Peripatetic doctrine these qualities belong to the sense of touch; Plato has no sense of touch *per se*.

(2) pain and pleasure (*DS* 84)

In *DS* 84 Theophrastus deals with pain and pleasure and with tastes. Here too both items become very much shortened in his version. The

⁵⁸ See for ἀναπνοή *Tim.* 79a5 (esp. b4-6), c1, e2 (περιωθεῖ) e6 (id.) e7 (κύκλον). McDiarmid’s emphasis on the air (1959a: 62) is unnecessary.

first item concludes Plato's account of the 'common affections', in which — we should not forget — the term 'common' and its opposite 'specific' have a different meaning in the *Tim.* than in Peripatetic thinking; Plato's use of the terms is *locative* (τὰ δ' [sc. κοινὰ τοῦ σώματος] ἐν ἰδίοις μέρεσιν), whereas in Aristotelian terminology they are technical concepts referring to the relation between the senses and their objects. We will see shortly what the consequences are of this terminological confusion.

Theophrastus emphasizes the natural and counter-natural aspect of pleasure and pain, adding to this opposite pair a middle position of no sensation (neutral state). This state, as Plato says himself, applies to seeing where the fire particles do not produce a cutting sensation, but one that is intense (45b). We should compare 64c8-e4. Plato first recalls his principle of mobility (see 57d-58c), which is essential for explaining whether or not sensation occurs. This principle states that sensations are motions (κινήσεις) transmitted to the soul where sensation then occurs. Their impact there depends on the capacity of the intermediaries to "be moved" (earth being highly immobile through its cubiformity, as opposed to fire particles). He then speaks of the different states of (un)pleasantness, making pain an affection contrary to nature, and pleasure the return to an unmoved state. Both changes are sensed because of a sudden disturbance of the state the body is in at the time.

(a) Theophrastus' excerpts show up very small changes which lay bare his different point of view. In his method of summarizing his preference for the relevant and 'essential' emerges. A comparison of his summary with the *Tim.* passages will make this clear.

Tim. 64c-64e

τὸ δὴ τῆς ἡδονῆς καὶ λύπης ὥδε δεῖ
διανοεῖσθαι· τὸ μὲν παρὰ φύσιν καὶ (δ)
βίαιον γινόμενον ἀθρόον παρ' ἡμῖν
πάθος ἀλγεινόν, τὸ δ' εἰς φύσιν ἀπὸ
πάλιν ἀθρόον ἡδύ,

DS 84

ἡδὺ δὲ καὶ λυπηρόν, τὸ μὲν εἰς
φύσιν ἀθρόον πάθος, τὸ δὲ παρὰ
φύσιν καὶ βίαια [λυπηρόν].

"the pathos of pleasure and pain should be conceived of as follows: the violent and unnatural feeling which occurs suddenly in us is painful, whereas the one that returns to the natural state instantly is pleasant"

"but the pleasant and unpleasant, the one <is> a sudden feeling towards the natural (state), the other unnatural and violent"

Plato's 'names-plus-definitions' have changed places as compared to the *Tim.* where names and descriptions are in chiasmic order (i.e. ἡδονῆς καὶ λύπης ~ τὸ μὲν παρὰ φύσιν ... τὸ δ' εἰς φύσιν ἀπὸ φύσιν); in *DS* the names conveniently mark a subject entry, while for the descriptions keywords remain and Peripatetic terms enter (βία, λυπηρόν). Yet the words ἀθρόον πάθος suggest it is a faithful summary. But is it? The next sentences show it probably is not.

τὸ δὲ ἡρέμα καὶ κατὰ σμικρὸν τὰ δὲ μέσα καὶ ἀναίσθητα ἀνὰ
ἀναίσθητον, τὸ δ' ἐναντίον τούτοις λόγον.
ἐναντίως.

Theophrastus seems to take the third state (of no or gradual motions) as a *middle* (μέσα) between motion and rest. This reminds us of the Peripatetic doctrine of the mean. By replacing the "mild and gradual <motions>" in Plato with the expression "the middle and imperceptible accordingly", the phrase becomes unintelligible. Usener's suggestion to add αἰσθητά before καὶ (*DG* 525 app.crit.) seems forced.⁵⁹ However this may be, it is clear that Theophrastus' brevity and interpretation of terms cause difficulties in assessing how *he* read the *Tim.*

(b) Second, his phrase ἀνὰ λόγον — an expression he seems rather fond of⁶⁰ — is meant to replace the cryptic phrase τὸ δ' ἐναντίον τούτοις ἐναντίως. Cornford's translation "a gentle and gradual change of *either sort* is imperceptible" (p. 267; my italics) leaves one guessing at the exact meaning, but apparently he takes τούτοις as referring to pleasure and pain. But what does "the opposite to these in an opposite way" mean? If opposite to the "mild and gradual <motions>", it must mean "strong and sudden motions" which *do* cause sensation. In that case it is rather repetitive.

(c) The final part of the passage on pleasure and pain again shows the extreme brevity of Theophrastus' excerpt. He concludes by focusing on the example of vision in Plato's explanation: "therefore in the case of vision there is no pleasure or pain on account of the dilation

⁵⁹ Perhaps we should delete καί (with Kafka 1913, 81), since the adjective 'imperceptible' must be taken as qualifying the middle kind of motions. Another possibility is to read τὰ δὲ μέσα καὶ αἰσθητά.

⁶⁰ Theophrastus' interest in and use of analogy needs further investigation as does its link to dialectic (cf. Ar. *Top.* A 14-18). Cf. Ch. 2, n. 106 and Eichholz (1965) 24 n. 3.

and contraction" (*DS* 84). This remark (of approx. 14 words) summarizes Plato's much longer comments at *Tim.* 64d-e (approx. 88 words). There is however no serious misrepresentation.

From this selective summary Theophrastus' focus on concrete remarks about the physiological side of perception is all too clear. Since Plato is rather elaborate here, it seems a sensible intervention on the part of the excerptor to reduce the passage considerably. Note that, whereas previously pleasure and pain only played a role as criterion for smells, Plato also deals with pleasure and pain in a quite different context, when he speaks of their bad influence on the soul (*Tim.* 86b-e; not in *DS*).⁶¹

(3) flavors (*DS* 84)

Plato's first item of the "affections in the particular parts (of the body)", i.e. tastes (65b6), is given more space in Theophrastus' report (*DS* 84, *DG* 525.4-10). The account is somewhat scrambled.⁶² Plato distinguishes several classes and kinds ('sub-classes') of tastes or fluids. His *proviso* regarding their names squares well with the general disclaimer about the status of the qualities themselves and the names we give to their effects which we experience.

(a) The first two sentences in Theophrastus' report cause several problems. His remarks on 'kinds' miss their mark completely:

As for flavors Plato says in the passages on fluids that there are four kinds (εἴδη), with wine, sour, oil and honey among the saps, and the earthy taste among the affections.

Plato's actually says there are four kinds *which have received names* (60a). Theophrastus seems to have missed Plato's qualifying words which separate the nameless from the nameable kinds of tastes in the *Tim.*⁶³ These are a sub-class of fluids (ὑδατα) "which have seeped through the earth". Theophrastus may be ignoring this because he disagrees with Plato (cf. *DS* 90, *CP* 6.1.1). But it is another reminder of his unwillingness (or inability?) to take the *proviso* on names into account.

⁶¹ One other passage, preserved in Damascius, *In Phil.*, 167-68 Westerink (= fr. 556 *FHSG*), on the view that there are only true pleasures, provides a parallel for illustrating Theophrastus' criticism of Plato (Θεόφραστος ἀντιλέγει τῷ Πλάτῳι ...) and his use of a Platonic 'text'.

⁶² Cf. Beare 170 ff., *DG* 525 app. crit.

⁶³ E.g. ὅσα ἐμπυρά. Cf. Stratton, n.212.

(b) Odd too is the suggestion of a separate section presumably entitled ‘on fluids’ (ἐν τοῖς περὶ ὕδατος). It may refer to 60d-e, but all Plato says is that “two kinds of earth remain when a large amount of water has departed from the mixture” (tr. Cornford).⁶⁴

(c) Moreover, the order of the ‘four kinds’ is altered: οἶνος, ἐλαιηρὸν εἶδος, μέλι, ὁπός changes into οἶνον, ὁπὸν, ἔλαιον, μέλι. Theophrastus perhaps prefers to put them in a sequence going from acid to sweet, which by his standard (see *CP* 6.1) are the principles of tastes, being the extremes on the scale from which the others are made. Note that in his distinction between “saps”, on the one hand, and “affections” on the other, the difference between the object and subject gets stronger emphasis than anywhere else in the *Tim*.

Thus we see that the account in *DS* of Plato’s explanation of tastes and smells is a rather scrappy and shortened version of the *Tim*. passages, especially when compared with *CP* 6.1, which is almost a *verbatim* quotation.⁶⁵ One specific difference from *DS* should be mentioned. On the subject of tastes Plato classes a number of them under the “gustatory objects” (*Tim*. 60d-e), whereas Theophrastus regards them as affections. Stratton (n. 214) suggests that Theophrastus must have had *Tim*. 65c-e in mind. But when he adds the remark that “It is not improbable that he entirely overlooked the account of alkali and salt”, it is clear that he himself has overlooked both *DS* 84 and *CP* 6.1, where alkali and salt *are* included in the account. There the ‘definitions’ of tastes from the *Tim*. are reproduced quite accurately. No doubt in the *CP* it serves a more specialised purpose. They are mentioned to illustrate the kind of explanation which works according to the effects (*pathêmata*) on the sense organ rather than by their nature (*physis*), as Democritus thought. Such a divergence of precision and method in Theophrastus’ treatments of identical material demands an explanation. Apparently we must assume that Theophrastus took the trouble of consulting the *Tim*. on several occasions and in different ways.

⁶⁴ The phrase ἐν τοῖς περὶ is mostly used by Aristotle to refer to another *work* (e.g. *Ar. De an.* 404b19, 423b29, *De caelo* 272a30, *Metaph.* 983a33, 1028a11 etc.). Another example is in *DS* 52 (*DG* 514.4) on Democritus (discussed in Ch. 5.2, esp. nn. 142 and 149).

⁶⁵ See Long (1996) 356f. The discrepancy was noted by Diels, *DG* 525 app.: “accuratius excerptit [*Tim*. 65c sq.] de caus. pl. VI.1, 4-5”. On occasion he even uses *CP* 6 to correct the text of *DS* (e.g. *DG* 525.9) which is of course questionable. I plan to discuss the problem of the relationship between *DS* and *CP* 6.1 elsewhere.

(4) smells (*DS* 85)

Plato's explanation of smells has clearly been shortened and changed in Theophrastus' version (*DS* 85).

(a) Plato makes some puzzling statements on the perceptibility of smells. They do not consist of pure elements, but are of a transitional state between water and air and vice versa. Accordingly he refers to *all* smells as "smoke and mist" (66e2).⁶⁶ To the first part of this view — pure elements are not perceived — Aristotle and Theophrastus would hardly object. The underlying thought seems to be that (i) whatever it is that we smell must be inhaled (i.e. it is connected to air), and (ii) it must be stuff which apart from containing one or more of the (pure) elements also has a certain form of 'pollution' in it. In addition, we should note that Theophrastus' interest in empirical information is shown up by his paraphrase of *Tim.* 66e5-8: in preserving Plato's illustration of the thick nature of smells (esp. e4-5) he stresses the importance of observed facts.⁶⁷

(b) Theophrastus' version of the account of sounds is not only shorter but also different. First, he does not take notice of the role of the liver. For Plato the liver was related to the emotions.⁶⁸ Theophrastus alludes to the liver in *DS* 5 as having a function in the process of hearing; not so in *DS* 85 where the 'definition' of hearing reappears. Thus he seems to reproduce the 'definition' mechanically with a view to its physiological functioning only. Theophrastus himself connected hearing and emotion (his own reference to emotion being in a rhetorical context), but must have thought a connection with the liver irrelevant.⁶⁹ Again Theophrastus shows extraordinary strictness in selecting his material. The *repetition* of the Platonic 'definition' may be significant in its own right. When dealing with perception as a process

⁶⁶ This has troubled commentators (Taylor, 1928: 472; Cornford, 1956: 273f.), because it seems to suggest that some sort of 'irregular' particles are perceived. This suggestion has however been sufficiently refuted by G. Vlastos, 'Plato's Supposed Theory of Irregular Atomic Figures', *Isis* (1967), 204-209 [Repr. in *G. Vlastos. Platonic Studies* (Princeton Univ. Pr. 1973), 366-373].

⁶⁷ Note how he renders the crucial words: δηλοῦνται (*Tim.* 66e5) becomes σημείον δὲ (*DG* 525.13), τινὸς ἀντιφραχθέντος ... εἰς αὐτόν (*Tim.* 66e6-7) becomes ἐπιφράξαντες ἀνασπῶσιν (525.14). On σημείον, see also Ch. 5, n. 142.

⁶⁸ See *Tim.* 71b-d; it 'mirrors' the impressions coming from reason and is designed to communicate reality to the irrational (lower) part of the soul which is thus kept in check.

⁶⁹ Plutarch reports that "Theophrastus is said to have maintained that of the senses the sense of hearing is the most emotional(?) of all". (*De recta ratione audiendi* 2. 37F-38A [= fr. 293 *FHSG*]).

(*DS* 5), the bodily parts relevant to it are mentioned (ear, liver).⁷⁰ When dealing with voice (*DS* 85) and its relation to music and pitch, the liver is irrelevant and left out.

(5) colors (*DS* 86)

Theophrastus has done some serious rearranging in the order of the material on colors (*DS* 86). Plato gives his account at *Tim.* 67c4-68d7. Comparison of the general structure calls for the following remarks:

(a) Theophrastus starts with the definition of color: “color is a flame <coming> from the bodies with parts that are proportioned to vision”. Note that the qualifying *τινα* (as in *DS* 5; mss. have *την*) is now omitted. The sentence echoes many keywords from the *Tim.* (cf. 67c6-7 fire; 67d6-e1 contraction-dilation, hot-cold), but is again much shorter. The part omitted in *DS* (67c8-e4) explains what kind of proportion is meant; it is a detailed elaboration of the principle of sensation as described regarding pleasure and pain (above p. 112f.). Parts larger and smaller [than those of vision cf. 67d4] cause the ray to contract or dilate, whereas parts of equal size (*ἴσα*) cause no stimulus, i.e. “that which is transparent” (the *diaphanes*, 67d5). Strangely, the *diaphanes* is not mentioned at all by Theophrastus, although it is part of the Aristotelian theory of vision and is also mentioned in *DS* 25 on Alcmeon. The whole passage is thus boiled down to bare essentials, approx. 16 (OCT) lines being reduced to about 4.

(b) Next we have white and black, which are regarded as separating and combining forces analogous to what the hot and cold do to the flesh, and the astringent and sharp to the tongue (cf. *Tim.* 67d7-e7).

(c) The other colors discussed by Plato in this context (68b4-6) are missing.⁷¹ Theophrastus merely states that “all other colors are derived from the extremes (i.e. white and black)”. This looks like the Aristotelian view in which opposite *archai* define and encompass a class of particulars derived from them (as e.g. *Metaph.* 1057b13-16 οἶον ὅσα χρώματα τοῦ λευκοῦ καὶ μέλανός ἐστι μεταξὺ, ταῦτα δεῖ ἕκ τε τοῦ γένους λέγεσθαι, ἔστι δὲ γένος τὸ χρώμα).⁷²

⁷⁰ Perhaps Plato’s way of introducing the sense of hearing (“let us posit *in general* (ὅλως) that voice ...”) was Theophrastus’ reason for discussing it in the first part of *DS* (as opposed to the more specific sense objects). Cf. Ch. 6.1.1 [iv].

⁷¹ On the color red, cf. Stratton, n.228 who thinks there must be a lacuna (he is followed by Long 1996, 359) and *Tim.* 68b1-4, c1 ff.

⁷² Here the question arises why Theophrastus should leave out the individual colors Plato mentions, whereas the different kinds and even the variable intensity of

(d) The final remarks on this subject are particularly interesting for our understanding of Theophrastus' method of excerpting. First, we find here the only reference to the 'resembling account' (*eikōs logos*). The formulation is close to the *Tim.* As this is not the only point of interest in this passage I quote the texts in full:

Tim. 68b6-8 (cf. d2)

τὸ δὲ ὅσον μέτρον ὅσοις, οὐδ' ἔτι τις εἰδεῖν, νοῦν ἔχει τὸ λέγειν, ὧν μήτε τινὰ ἀνάγκην μήτε τὸν εἰκότα λόγον καὶ μετρίως ἂν τις εἰπεῖν εἴη δυνατός.

DS 86

ἐν οἷς δὲ λόγοις, οὐδ' ἔτι τις εἰδεῖν χρῆναι λέγειν φησὶν, ὧν οὐκ ἔχομεν εἰκότα λόγον ἢ ἀναγκαῖον.

"in what proportions they are mixed it would be foolish to state, even if in one could know; the matter is one in which no one could be even moderately sure of giving a necessary or a likely account" (tr. Cornford, modified)

"as for these proportions he says one ought not to state them, even if one knew (how), of which things we do not have a likely account or a necessary (one)" (tr. Stratton, modified)

What is striking about Theophrastus' report is, first, that here 'quotation' (underlined) and paraphrase alternate within one passage, and second, that there is a reversal in word-order.⁷³ But more importantly the expression 'likely account' seems confined to the explanation of colors which makes it look like a mechanical repetition of the source instead of a sensible paraphrase. In the ensuing sentence the odd selectivity is even more apparent:

Tim. 68d2-8

[...] εἰ δέ τις τούτων ἔργῳ σκοπούμενος βάσανον λαμβάνει, τὸ τῆς ἀνθρωπίνης καὶ θείας φύσεως ἡγνοηκώς ἂν εἴη διάφορον, ὅτι θεὸς

DS 86

οὐδ' εἰ πειρωμένῳ μὴ γίγνοιτο, οὐθὲν ἄτοπον,

ἀλλὰ τὸν θεὸν

the colors in Democritus' theory are reported in detail and, one is tempted to think, in full (*DS* 73-76). The most likely explanation seems to be that Democritus' theory did not have two opposite *archai* to provide a neat model of extremities and intermediary stages. In fact Theophrastus states that Democritus postulated *four* colors (white, black, red, yellow-green) as the basic ones (*ἀπλᾶ*, *DS* 73), which depend largely on position and order (*DS* 75, end). Other colors come from these by mixture (*DS* 76).

⁷³ μήτε τινὰ ἀνάγκην μήτε τὸν εἰκότα λόγον becomes ὧν οὐκ ἔχομεν εἰκότα λόγον ἢ ἀναγκαῖον. On the relevance of word-order see Whittaker (1989) 71 ff.

μὲν τὰ πολλὰ εἰς ἓν συγκεραννύναι
 καὶ πάλιν ἐξ ἑνὸς εἰς πολλὰ
 διαλύειν ἱκανῶς ἐπιστάμενος ἅμα
 καὶ δυνατός, ἀνθρώπων δὲ οὐδεὶς
 οὐδέτερα τούτων ἱκανὸς οὔτε ἔστι
 νῦν οὔτε εἰς αὔθις ποτε ἔσται.

δύνασθαι τοῦτο δρᾶν

Theophrastus skips the list of individual colors (68c1-d1) and paraphrases the ‘empirical argument’ (τις ... ἔργῳ σκοπούμενος) in one word (πειρωμένῳ). Finally, the reference to “god” — so prominent in the *Tim.* — is found only here. In the *Tim.* Plato concludes the section by indicating that one could reasonably add other combinations of pigments (‘macro-level’), but he warns that it would be arrogant to try and find in experiment the exact quantities of fire-particles (‘micro-level’).⁷⁴ The phrase “it is not unreasonable” (οὐθὲν ἄτοπον) must be Theophrastus’ paraphrase for the superiority of god which is implied in the opposition god *vs.* men. This passage again reveals how Theophrastus ignores the wider epistemological *proviso* that runs through the *Tim.* From the many passages in which Theophrastus summarizes the affections (esp. hot-cold, soft-hard etc.) he nowhere shows awareness of the general framework and tone of the *Tim.* regarding the truthfulness of the account.⁷⁵ As we have seen, this neglect also applies to a second conspicuous feature of the Platonic account, viz. the careful statements on the *names* certain affections have been given by people (e.g. 61e, 62b).⁷⁶ Perhaps we have to assume that Theophrastus dealt with these aspects elsewhere.

3. Criticisms of Plato’s Theory (DS 87-92)

Criticisms of Plato are formulated in *DS* 87-92. The points criticised do not fully overlap with those mentioned in the report. This can be visualised as follows:

⁷⁴ Cf. Cornford (1956) 278.

⁷⁵ See Claghorn (1954) 99, Cornford (1956) 29, G.E.R. Lloyd (1968) 81 n.22.

⁷⁶ This aspect had received little attention (cf. for instance Taylor, 1928: 594) until O’Brien’s study (1984: 147 and his supplementary ‘Note 8’, esp. 382, 384 ff.), basing a considerable part of his argument on a detailed reconsideration of this point (see the quotation above to n. 29). It is perhaps interesting to note that at *Tim.* 83c1-3 (cf. *Rep.* 596a) giving a name is put on a par with establishing the *genos* (which comes close to Aristotle’s concept of *genus* in the *Topics*, see Ch. 6.1.1 section [vi]).

*DS 83-87 Report**DS 87-92 Criticism*

- | | |
|---------------------------|----------------------------|
| (1) hot and cold | (a) hot and cold |
| (2) hard and soft | (b) hard and soft |
| (3) heavy and light | (c) heavy and light |
| (4) smooth, rough, medium | – (?). |
| (5) flavors (περὶ χυμῶν) | (d) tastes (τῶν χυλῶν) |
| (6) smells | (e) objects smelled |
| | (f) smelling |
| (7) voice | (g) an account of voice |
| | (h) sound and voice |
| (8) color | (i) colors (περὶ χρωμάτων) |

Note that Theophrastus is more elaborate in his criticism when it comes to distinguishing objects from sense organs. His different selection in the account and criticisms seems entirely directed by his own interest. For instance, he does not discuss the *hard* separately, but concentrates on the *soft*, nor does he deal with the pleasant, painful and intermediate states (no. 4). He uses the Aristotelian schema by dividing the point on hearing in two parts, “the *logos* of voice” (g) and “sound and voice” (h). A similar approach is seen with smells. Theophrastus seems to be interested specifically in smells and sounds, elaborating on both the sense and the objects in detail (6 corresponds to e+f, 7 to g+h).

Regarding the treatment of the accounts of the sense objects it will be convenient to retain Theophrastus' linking of Plato and Democritus because this brings out certain interesting similarities between the two treatments.⁷⁷ We may start with the section on Plato, which exhibits a clearer pattern than that on Democritus. Nine arguments against Plato are formulated.

(1) The first argument focuses on the applicability of the definition of hot and cold. Theophrastus begins by saying (*DS* 87) “it is out of order not to give a consistent account, not even in the case of things

⁷⁷ The coupling of Democritus and Plato at *DS* 60 was perhaps initiated by Arist. *GC* A.2 316a5-14 where they figure as representatives of two different *methods* (τρόποι [see esp. McKeon, 1947: 8, 14f.]), as they do in Theophr. *CP* 6.1. Interestingly, *DS* 60 is closely paralleled in Sextus Emp. viii.6 (= *DK* 68A59), which also deals with the φύσις of the sense objects.

from a common *genus*” and illustrates his point by making the inconsistency clear (not defined by ‘figure’, no such account of cold).

(2) The second argument concerns the definition of ‘soft’. What is unsatisfactory to Theophrastus is the fact that Plato describes it as “that which *yields* to the flesh”.⁷⁸ Theophrastus also reports one reason Plato added for this in relation to the geometrical forms of the parts of the elements: “(he says) that that which has a small base yields”. In the *Tim.* Plato says this (62b):

hard is applied to anything to which our flesh gives in, *soft* to anything that yields to the flesh in relation to each other in this way. A thing yields when it has a small base; the figure composed of square faces, having a firm standing, is most stubborn; so too is anything that is specially resistant because it is contracted to the greatest density (tr. Cornford).

Theophrastus’ much shorter version concentrates on the central part of the definitions and skips the clarification added in Plato’s account. Theophrastus extracts a conclusion from it (*DS* 87) which reveals its weakness and backs this up by endoxic views to the contrary.⁷⁹

(3) The third argument is a long refutation of the *definition* (note ἀφώρικε) of light and heavy with special attention to the *relative* nature of these concepts in Plato’s account (οὐχ ἀπλῶς, ἀλλ’ ἐπὶ τῶν γεωδῶν). To some extent it probably depends on Aristotle’s discussion in *GC*.⁸⁰ Again the definition is at stake and Theophrastus leaves no doubt about this by repeating it at the end of the elaborate discussion (*DS* 89). Theophrastus states that the accounts (λόγοι) are not given by Plato (i.e. at 68d; but cf. 67d1). These *logoi* must refer to the two positions (or points of view) from which one can look at the subject: the circumference and the centre. O’Brien surely is right that Theophrastus is thinking of the correlation of weight with size and with speed, which results in two *logoi*, namely (i) a larger quantity of fire is heavier at the circumference and (ii) lighter at the centre. Aristotle and

⁷⁸ ὃ ἂν τῇ σαρκί (sc. ὑπείκῃ) (*DS* 83 ~ *Tim.* 62 [cf. Stratton, n.206]). It is peculiar that Theophrastus should object to this definition: his own preferred explanation is very close to the one given in *Meteor.* IV 382a11 (noted by Diels *ad DG* 526). The authorship of *Meteor.* IV is disputed, but it probably contains Theophrastean material (Gottschalk, 1961: 72f.).

⁷⁹ δοκεῖ δὲ τούτων οὐθὲν οὐδ’ ὅλως τὸ μὴ ἀντιμεθιστάμενον εἶναι μαλακόν κτλ. Theophrastus complains about Plato’s alleged use of ἀντιμεθίστασις (discussed in O’Brien 1984).

⁸⁰ See O’Brien (1984) 221-23.

Theophrastus however hold that fire has a fixed weight; therefore "the larger quantity of fire, so Aristotle and Theophrastus believe, is lighter in *both* places, and is heavier in *neither* place".⁸¹

(4) The fourth argument concerns the *absence* of definition with regard to the nature of the juices (*ou legei tis hekastos*), though it acknowledges that Plato does speak of the affections they cause in us. This point is related to the earlier complaint of Theophrastus (*DS* 60) that Democritus and Plato seem to be applying each other's principle. His main point seems to be that Plato has focused on the wrong aspect altogether by describing the affections (*pathê*) instead of the essence (*ousia*) of the objects of perception.⁸²

(5) The fifth argument raises the question of the *species* of the objects of smell. While they differ in affections and pleasures, Theophrastus argues, there seems to be a *general* similarity to tastes (cf. Arist. *De an.* 421a27-b2, Stratton 41f.). He thus implies that these categories of sensation have a formal parallel, since a group of similar objects can form a genus, which entails the existence of a (finite number of) species.

(6) The sixth argument concerns breathing itself (cf. 5): "it is generally agreed", says Theophrastus, "that there is some emanation and inhalation of air, but to liken odour to vapour and mist is incorrect (*ouk alêthes*)". The argument is somewhat odd as he next seems to imply that Plato likens them and yet again does not liken them. He adduces the description of the transition of the aforementioned phases of 'air' and again quotes an *endoxic* opinion (*δοκεῖ*) to the contrary (cf. no. 2).

(7) The seventh argument points to a deficient definition of voice.

(8) The next argument also concerns voice and sound: it is not these that Plato defines but the perceptive process in humans.

(9) Finally, he speaks of colors. Plato's view (which largely agrees with Empedocles') is quoted here (definition as at *DS* 5) and criticised on three points. Theophrastus thinks it is misplaced to confine the idea of 'fitting' and 'symmetria' to sight only. He also thinks it incorrect to speak of color as a flame. In the concluding sentence (which is hopelessly corrupt) Theophrastus seems to say that much is left unexplained, because Plato deprived the mixture of the other colors of all rational necessity, thus making it impossible to assign them to their causes.

⁸¹ O'Brien (1984) 256, his italics. See *ibid.* 248-266 for his full analysis.

⁸² On this point see also Ch. 6.3.2 (end).

These nine objections do not immediately reveal a pattern. Is there a cumulative effect or some other kind of order (or hierarchy)? First, we may stress two aspects which call for further comment. (1a) It is clear that there is a strongly formal approach towards Plato's views: six cases concern attacks on definition (which is considered either bad or absent), the three remaining points are concerned with genus (no. 1, cf. no. 7), species (no. 5), and consistency (no. 9). The objections seem to arise from the strict set of rules which dominate the Peripatetic view on the subject. The overall theoretical framework is one of division into different subjects where specific causes operate on specific levels and in specific areas. This factor especially marks the great difference between the elaborate, consistent, and self-conscious theory of Aristotle and Theophrastus on the one hand, and the conglomerate of explanations of the Presocratic pioneers (and to a considerable degree Plato) on the other. (1b) But Theophrastus also attacks the substance of the theory at issue. In three cases he offers an *endoxic* opinion to the contrary, which indeed is a high occurrence rate in comparison to other passages.⁸³ This peculiar combination of formal and substantial opposition points to a stronger involvement on the part of the critic than we find in passages on other thinkers.

Though these observations do not yield any further understanding of the arrangement of the arguments, the conclusion seems warranted that the attention to formal aspects found here is grounded in a dialectical outlook. The emphasis on matters related to definition in Plato's account, together with the fact that technical terms are brought in, cannot be accidental. A quick look at the objections against Democritus will corroborate this conclusion.

Theophrastus formulates eleven objections against Democritus (which need not all be spelt out here⁸⁴). There is a particular attention for clarity or the lack of clarity.⁸⁵ The underlying assumptions also seem to have the special interest of the critic.⁸⁶ The observations made by Theophrastus enhance the impression that Democritus has left the

⁸³ On *endoxic* views see Ch. 2.2.2.

⁸⁴ The passages on Democritus in *DS* 61-82 and his relationship with Plato (cf. Guthrie V 314-316) would need more space than the scope of the present investigation allows. I will confine myself to a brief comparison.

⁸⁵ E.g. *DS* 80 λεκτέον, 81 οὐ ῥάδιον καταμαθεῖν, οὐ διασαφεῖ, but also 64, 71, 72. Cf. Aristotle's clarity principle noted above (Ch. 2.2). The problematic nature of Democritus' theory is also emphasized in other ways, see Ch. 5.2.3, p. 152-55.

⁸⁶ Note the use of ὑπολαβεῖν twice in *DS* 80.

reader guessing at what he actually meant.⁸⁷ The initial objections against Democritus (nos. 1-3) have a certain formal similarity to some of those directed against Plato. The sequence of these arguments is as follows:

- (1) the first critical remark concerns the number of basic principles (*archas*, *DS* 79); Democritus increases it — a view which is not common “for the others have black and white, as being the only simple colors”.
- (2) next, Theophrastus points to lack of consistency in the explanation of the kinds of white — not all are described in the same way (some by hardness, others by texture) and then
- (3) goes on to correct the stated cause for the difference between black and white responsible for the different shades of white (not the figure, but the position); this point is further elaborated by adducing Democritus' own evidence.⁸⁸

The arguments concern *archai*, *genos*, and *differentia*. In each case there is a strong emphasis on cause. Their initial position seems to indicate that they are important notions. For our purposes we should compare argument (1) and (5) against Plato. First, the notion of *genus* underlying argument (1) there and (2) here becomes very clear in the formulation of the criticism:

Plato (1)
 πρῶτον μὲν τὸ μὴ πάντα ὁμοίως
 ἀποδοῦναι μηδὲ ὅσα τοῦ αὐτοῦ
 γένους. ὀρίσας γὰρ τὸ θερμὸν
 σχήματι τὸ ψυχρὸν οὐχ ὡσαύτως
 ἀπέδωκεν. (*DS* 87)

First of all not giving an account of all alike nor of those of the same genus. For after having defined the hot by shape, he did not give a similar account of the cold.

Democritus (2)
 ἔπειτα (sc. ἔχει τινὰ ἀπορίαν) τὸ μὴ
 πᾶσι τοῖς λευκοῖς μίαν ποιῆσαι τὴν
 μορφήν, ἀλλ᾽ ἑτέραν τοῖς σκληροῖς
 καὶ τοῖς ψαθυροῖς. (*DS* 79)

next, there is a problem that he does not give all the white (atoms) one shape, but a different one to the hard and brittle.

Here it is emphasized that consistency is mandatory where a class of similar things is concerned (i.e. a genus).⁸⁹ That these are formal

⁸⁷ Note the phrase “he rather seems to be talking about ...” (*DS* 80).

⁸⁸ σημείον δέ· καὶ γὰρ αὐτὸς ταύτην φέρει τὴν πίστιν κτλ. (*DS* 79).

⁸⁹ In the first case (Plato) *genos* is explicitly mentioned. Note that the difference

patterns which have their origin in Aristotle's *Top.* can be easily shown by referring to *Top.* Δ 3 (more examples of technical features in Ch. 6). Similarly with no. (5) and no. (3) on *diaphora*: this plays a significant role in dialectical tactics, though strictly speaking the search for the *diaphorai* is first and foremost a *tool* in gymnastic dialectic (*Top.* A 15, *organon*).

4. *Theophrastus' (In)dependence in Relation to Aristotle*

Some aspects of the references to Plato by Theophrastus compared to Aristotle have remained unmentioned. For instance, nowhere in *DS* does Theophrastus refer to the *Tim.* by its title. All references are to Plato himself.⁹⁰ Why? Elsewhere we find two instances in which he does mention the title, viz. *Metaph.* 6b27 and *Phys.op.* Fr. 12 (*DG* 490.6): the first reference occurs in the discussion of the well-defined character of the first principles.⁹¹ In contrast, Aristotle refers to it by its title many times⁹² (although among his references that of Theophrastus to 30b is lacking).⁹³

The discrepancy just mentioned between Aristotle and Theophrastus in respect of their use of the *Tim.* in general and with regard to perception in particular is worth elaborating. It provides further evidence to undermine the generalizing tendency of McDiarmid's idea of an *interpretatio Aristotelica*. As far as we can tell, Aristotle seems to

between *morphé* and *schéma* is merely verbal (Peripatetic vs. Democritean).

⁹⁰ See Appendix D. One might wonder if Theophrastus here either diverges from common practice of avoiding names of people still alive or wrote it after Plato's death. Since Theophrastus lived some sixty more years after Plato's death (347 BC), the second option seems more likely. Plato is also mentioned several times in his *Metaphysics* (6b11, 11a27, etc.).

⁹¹ Ross-Fobes, *ad loc.* p. 60, take this to refer to *Tim.* 30b.

⁹² Compare his phrase *ὡς ἐν τῷ Τιμαίῳ γέγραπται* (γεγραμμέν-) which suggests it is based on the text [but cf. below n. 96]. See also Jones (1916) 107, Claghorn (1954) 1.

⁹³ *De cael.* 300b17 refers to 30a. The second reference – which we need not go into here since it concerns a text probably not from the *Phys.op.* – is to the Atlantis myth (24e, 25c). See also S. Amigues, *Théophraste. Recherches sur les Plantes* (Budé, Tome I, 1988; Tome II, 1989) who detects two references to the *Tim.* (see 1988, pp. ix-x: *Tim.* 77B ~ *HP* 4.16.6 [at p. 80, n.7] and *Tim.* 77C ~ *HP* 1.4.4 [at p. 303, n.12]). Her inference that Plato published his *Tim.* at the time when Theophrastus came to Athens (ca. 354 BC) is interesting, but cannot be proved — as Sharples points out *ClR* 39 (1989) 197.

have had a specific interest in three aspects of Plato's theory concerning the sense organs and their mechanics. Two points are discussed in *De sensu* (and *De resp.*), a third one in the *De anima*:

- (a) the working of the eye,
 - (a.1) the organ of sight is fiery (437b11, 15 ~ *Tim.* 45b);
 - (a.2) its visual ray is 'quenched' in the dark, 443b17-18 ~ *Tim.* 45d);
- (b) the respiratory 'system' has a circular thrust (*De resp.* 472b6 ff. ~ 79 a-d);
- (c) smells (ὀσμάί, 421a26-27, compare *Tim.* 66d1-67a6).

In comparison with Aristotle Theophrastus only discusses two of these four points (a.1 and c). But Aristotle's criticism of the visual ray (a.2), precisely a point one would expect Theophrastus to adopt, remains unmentioned in *DS*.⁹⁴ That Theophrastus does not mention the respiratory system (point b) may seem obvious as it is not part of sensation. But in connection with smells this is not totally irrelevant even to him (cf. *DS* 11 and below).⁹⁵ As to smells (point c), there Theophrastus' treatment (*DS* 85 report; 90 critique) far exceeds the brief and implicit reference of Aristotle (421a26f.).

This kind of divergence seems to occur more regularly. In several cases Theophrastus does not follow Aristotle's lead on a topic which we would expect to be relevant or of importance. Did Theophrastus not know the passages in which Aristotle discussed the *Tim.*? This is hard to believe given the fact that Theophrastus inherited Aristotle's library, in which we find some thirty explicit references to the *Tim.* in the treatises (see below). It may be that the methodological 'principle' stated by Boethius — that Theophrastus would only add to Aristotle's account if improvement was possible — applies here.⁹⁶ But as we will see, Theophrastus' 'improvements' as a rule deal with Peripatetic doctrine, not with points of criticism against predecessors. Moreover, there are examples of Theophrastus using Aristotelian criticisms which we cannot regard as insufficient.

⁹⁴ For the visual ray see also *De caelo* 290a15-24.

⁹⁵ Note that περίωσις is not Plato's own term; it is used by Aristotle in *De resp.* 472b6. I suppose that the latter's formulation 'Ἡ δ' ἐν τῷ Τιμαίῳ γεγραμμένη περίωσις can not mean *literal* accuracy here (cf. n. 92).

⁹⁶ See Ch. 2.1.

The following cases can be mentioned to exemplify the peculiar situation in this respect: Theophrastus has no trace of the treatment of the soul by Plato.⁹⁷ Also, whereas the comparison between the Aristotelian allusions to the *Tim.* with the *Tim.* itself show that Aristotle's knowledge of the Platonic cosmology ranges (at least) from *Tim.* 30a to 79a, in the case of Theophrastus fewer references and echoes are found.⁹⁸

The rather selective picture can be corrected to some extent when we consider all the (extant) references to Plato in Theophrastus. In the following diagram the situation is mapped out: the left column contains the *Tim.* passages, to which references can be found in Aristotle (middle) and Theophrastus (right column). The correspondence with Aristotle serves as illustration for the wider scope but less detailed state of the evidence in his works⁹⁹:

Plato, <i>Tim.</i>	Aristotle	Theophrastus
23d-25e Atlantis		<i>Phys.Op.</i> fr. 12
30a chaos/elements	300b17; 1071b32	<i>Phys.Op.</i> fr. 20,1
34b source of motion	1072a2	Fr. 38 W.
34-35a soul	406b26-407b11	<i>Phys.Op.</i> fr.10,1 et 9
35a soul from elements	404b16-24	
40b earth's axis	293b32	
45b vision	437b11, 15	<i>DS</i> 5 (+ 67c)
45d visual ray	443b17-18	<i>DS</i> 6 "nothing on smell, taste, or touch" (sed cf. <i>Tim.</i> 61d-62c, 65c-67a)
49d ff. receptacle	329a13 ff.	
52d	315b25 ff.	
53c	315b30	
51a 'all-receiver'	306b19	[Phys.] <i>Phys.Op.</i> fr. 9,2
53a ff. indivisibles	325b24	
54b-d transformation of elements	332a29	

⁹⁷ Cf. Aristotle, *De an.* 404b16-24 ~ *Tim.* 35a1-b3; 406b26-407b11 ~ *Tim.* 34, 35a-36e? A similar divergence regarding Empedocles was mentioned above p.54; Stratton n.70).

⁹⁸ Compare his reticence in the *Metaphysics* where "There seems to be no awareness of the significance of the *Timaeus* solution", regarding how movement in nature derives from "a motionless ἀρχή." (Skemp, 1969: 222).

⁹⁹ For a similar (but shorter) overview cf. Löbl (1987) 17-18 [= (1976) 48-49].

Plato, <i>Tim.</i>	Aristotle	Theophrastus
56?	315b30 planes	
56b	300a1.	
58a	337a7-15 ¹⁰⁰	
63c	308b4	
61d-e, 62a-b	(?)	<i>DS</i> 83 hot/cold
62b		hard/soft
62c-63e		light/heavy
64a-65b		<i>DS</i> 84 pain/pleasure
59e-60e; 65b-66c	(422b10 ff)	tastes
		<i>CP</i> 6.1
66d1-67a6; 67d-68d		<i>DS</i> 85 smells; voice
67a-c	420a29f.; 421a26 f.	
67c-68d		<i>DS</i> 86 colors
79a-e	472b6 respiration	—

This survey shows that Aristotle dealt with numerous individual problems in separate treatises, disagreeing with Plato on specific issues (e.g. the Forms or the genesis of the world). What he reproduces in paraphrase are largely quotes from memory, though on occasion there is evidence that his source is the written text of the *Tim.* Theophrastus seems to have *focused* on a *few* subjects, viz. principles (*Metaph.*), the genesis of the world (*Physics*? see nn.17-18), and perception (*DS*).

5. Conclusions

Now that we are more aware of Theophrastus' use of presumably available material (Plato, Aristotle) and have seen how his doctrinal and methodological perspective inform his approach, we may try to reach a more definite conclusion as to his use of the *Timaeus*-text. We have looked at the way in which Theophrastus reports and criticizes the *Tim.* in *DS* and have gained some insight in the quality of both procedures. We must now try to summarize the argument by arranging the different results of the detailed analyses in sections 4.1-3. For the sake of convenience we will concentrate on three aspects

¹⁰⁰ According to Cherniss (1935: 421) "a critical reference" to the *Tim.*

(which cannot always be kept strictly apart), namely (1) Theophrastus' source, (2) his use of the source, and (3) the nature of the arguments.

(1) We must assume that Theophrastus has consulted the (complete) *Tim.*-text. His remarks and certain allusions have shown that he had a broad and detailed knowledge of Plato's work. This does not however rule out that he had made notes (excerpts) of his own for the particular purpose of extracting the views on sensation. It would at least explain certain mistakes which we found in his account. The nature of Theophrastus' excerpts may be better understood from this type of writing current at the time, in particular from the so-called *epitomê*.¹⁰¹ The habit of making lists, *epitomai* and excerpts became common in the Peripatos. The *epitomê* was a form of summary which reduced the original text to about half or one third of its length.¹⁰² Three characteristics should be considered as typical: it confines itself to prose, it is marked by brevity, and its primary concern is content not form.¹⁰³ In comparison with its source the *epitomê* may contain paraphrase close to quotation. But essentially the epitomator's activity is one of suppressing certain parts of the material (e.g. speeches, details, and excursus).¹⁰⁴ Clearly Theophrastus' report conforms to all these requirements. But the passages in *DS* are not a summary of the *Tim.* as a whole. What we have in *DS* amounts to an *epitomê* of Plato's views on perception drawn from the *Tim.*

One might perhaps speculate about the reasons for such a 'narrow' approach towards the *Tim.* Since the *Tim.* covered an enormous range of subjects it may have induced an approach of partial excerpts on topics such as cosmology (as found in Aristotle), perception (in

¹⁰¹ Dr. Gottschalk has pointed out to me that we should not think here of an excerpt in the formal sense of a published summary of some kind. The *epitomê* in this sense only became common in the next century (what we should think of is suggested below n. 114.)

¹⁰² Or even less then this: compare for instance the "summary of a summary" by Heraklides Lembos of the *Ath. Pol.* (Rose, 1886: 370 ff.) where two Teubner pages stand against sixty pages of the original. [I owe this reference to dr. Gottschalk.]

¹⁰³ For a general overview see Opelt (1962) 944 ff. on which this description is based (esp. 944-46; 959-62). Some caution is needed with Opelt's general characterization, since her conclusions on the relationship between source and epitome are mostly based on later (Latin) examples. See also Fuhrmann, *Das systematische Lehrbuch* (1960) and the extensive review by W.H. Stahl in *Latomus* 23 (1964) 311-321.

¹⁰⁴ Opelt (1962) 960: "die Epitomai als redaktionell überarbeitete Exzerpte, d.h. es bestehen weitgehend wörtliche Übereinstimmungen..."

Theophrastus), and medical tenets (e.g. the *Menôneia synagôgê*).¹⁰⁵ It is therefore of interest to note that Theophrastus' partial excerpt is in a way paralleled by Aristotle's approach. In the Laertian bibliography of Aristotle's works we find an *epitomê* of Platonic doctrines from the *Tim.* (and from Archytas).¹⁰⁶ Presumably this one contained a summary of the Platonic work and of views of the Pythagorean Archytas. This points to a condensed version of the *Tim.* connected with Pythagorean material, probably on numbers and cosmology.¹⁰⁷ The combining of two theories may also exemplify Aristotle's dialectical method, in which agreeing and disagreeing views are marked out as contributing to the solution of a problem. Another testimony from Simplicius' commentary on Aristotle's *De caelo* confirms the existence of an *epitomê* (or overview) by Aristotle.¹⁰⁸ In other words, there existed a precedent of this type of work.¹⁰⁹

(2) We have seen that Theophrastus' *DS* presents an extremely brief summary of the passages on sensation from the *Tim.* The problem of the extent of Theophrastus' knowledge of the *Tim.* was raised by discrepancies in both the report and criticisms when compared to Plato's text. To assume that Theophrastus did not regard as important or disagreed with all those cases which he left out seems unsatisfactory.

¹⁰⁵ Perhaps a good parallel for the latter case is the medical excerpt Galen is said to have made for himself (*PHP* VIII 6.57 de Lacy).

¹⁰⁶ D.L. V.25 [= DK 47A13] Τὰ ἐκ τοῦ Τιμαίου καὶ τῶν Ἀρχυτείων α' (note the plural in the case of Archytas, sc. writings [?]). For the formula of an *epitomê* as τὰ ἐκ ..., see Opelt (1962) 946 and n. 109. Another famous example of an *epitomê* is of course the *Letter to Herodotus* by (Theophrastus' contemporary) Epicurus preserved in D.L. IX.35-83, in which the author himself gives a summary of his own *Physics*. For the meaning of *epitome* as 'summary of doctrine' see Mansfeld-Runia (1997) 182-84.

¹⁰⁷ In the treatises Aristotle mentions Archytas several times: in three cases no Pythagorean subject is at issue (*Metaph.* 1043a20 ff. on substance; *Rhet.* 1412a12 on metaphor; *Probl.* 915a29f. on the form of plants and animals). But in Fr. 207 R³ (Damascius, dubitationes et solutiones 306, [=Ross OCT p.121]) we find the following remark: "Aristotle in his work on Archytas relates that Pythagoras too called matter 'other', as being in flux and always becoming other" (perhaps a reference to the separate work included in D.L. V.25). It is obviously closely related to the *Tim.* Plato and Archytas in Theophrastus occur within one argument in *Metaph.* 6a9 Ross-Fobes (cf. 9b12, 11a).

¹⁰⁸ In *De caelo* 379.12 ff. Heiberg (esp. 15-17 μάλλον ὁ Ἀριστοτέλης τὴν ἐν Τιμαίῳ περὶ τούτων τοῦ Πλάτωνος γνώμην ἠπίστατο, ὅς καὶ σύνοψιν ἢ ἐπιτομὴν τοῦ Τιμαίου γράφειν οὐκ ἀπηξίωσεν) and also *ibid.* 296.16-18.

¹⁰⁹ For other excerpts one may compare D.L. V.22, Τὰ ἐκ τῶν νόμων Πλάτωνος α'β'γ'; for Theophrastus see D.L. V 43 ἐπιτομή τῆς Πλάτωνος Πολιτείας α'β'; 44 Νόμων ἐπιτομῆς α'-ι'; 46 περὶ φυσικῶν ἐπιτομῆς (cf. 48); 49 ἐπιτομῶν Ἀριστοτέλους περὶ ζώων α'-ς'.

The problem was approached by distinguishing several partial problems: we detected two kinds of omissions, suggested other possible sources, and looked at the technique of excerpting. This last point put us in a position to explain in part the degree of ‘compression’.

The analysis has shown that we should look for the answer in Theophrastus’ extremely narrow approach towards Plato’s account. It is clear that he chooses only clear-cut statements pertaining to physiology. From what we know of his view on perception (Ch. 3.1), this comes as no great surprise. Theophrastus may have been eager to eliminate the teleological explanations from a theory of sensation. Thus, although *we* may find his selection too restricted, it should be admitted that Theophrastus lives up to his own standards. This may explain the minimal amount of information which is reported, yet does not clarify all that is left out.

Some of the remaining discrepancies must be caused by his working method. As we have seen there is sufficient evidence that the summary (*epitomê*) was a current work form at that time. A brief look at the value of excerpting methods served precisely to counter the view which sees Theophrastus at work like a modern scholar, because it imposes a working method not used by the ancients, who had just started to employ writing in their evaluative approach to the work of others.¹¹⁰ While in general no ‘philological’ accuracy can be assumed, Theophrastus still reproduces many of Plato’s words accurately. The contrast with Aristotle, who in general gives rather loose quotes, perhaps marks a further step in the influence of writing upon the accuracy of quoting. We should certainly not simply imagine Theophrastus “at work with the *Tim.* spread before him”.¹¹¹ In addition, the general view put forward by Cherniss and McDiarmid that Theophrastus almost always follows Aristotle in his (historical) accounts of pre-Aristotelian philosophy does not hold water in view of the evidence we have presented. Theophrastus has surely not “overlooked” although he may at times have “rejected the evidence of the *Tim.*” (*pace* McDiarmid, 1959a: 60); what is more surprising is that he has overlooked or neglected evidence in Aristotle.

¹¹⁰ It is significant that Stratton is occasionally forced to tone down this imaginative picture, because despite all the accuracy one cannot fail to discover obvious discrepancies. Stratton, n. 204 “inaccuracy” (*DS* 83), n. 206 “verbatim transcript” (*DS* 83), “inaccurate”, n. 214 “inexact” (cf. his n. 239).

¹¹¹ Stratton n. 203.

With this in mind we explored the relationship with Aristotle's knowledge of the *Tim.* While both must have had access to the *Tim.* we found that Theophrastus reproduces more about less, whereas Aristotle reproduces less about more. In the margin we pointed to further discrepancies between the references to Plato in Theophrastus' other works and *DS.* For instance, in *Phys.op.* Frr. 9-11, *Metaph.* 6b10, 11a26, b1, and Fr. 556 *FHSG* Theophrastus seems better informed and more to the point. But considering how little is still extant of Theophrastus' works, he does not come off badly in comparison with Aristotle.

It would be unwise to say that in general Theophrastus' treatment is manipulative in a strong sense. There are a few points of doctrine where misrepresentation is detectable to a degree. Even if we know of cases in which at a very early stage mistakes and manipulations regarding the *Tim.* occurred¹¹², this is hardly proof that Theophrastus did the same.¹¹³ The rearrangements we indicated all concern clusters of related statements brought together in 'thematic sections'. We cannot exclude the possibility that some kind of worknotes lay at the root of (some of) the obscurities in his reports. There is a distinct possibility that the summary was a working manuscript for personal use only.¹¹⁴ Thus the argument from clarity will be irrelevant, if indeed I am right in claiming that these notes were meant for Theophrastus' use only, or even for use in conjunction with the source itself.

(3) The nature of the arguments admitted of a clearer characterization. The underlying patterns are very formal and exhibit features familiar from dialectic. We have indicated in broad lines how this is to be understood. Modern presuppositions on accuracy and (clear) structure are the first obstacles to be overcome. In general, the ancients

¹¹² See Whittaker (1973); *id.* (1989) and next n.

¹¹³ As we saw (nn. 3 & 13) altering texts was common for different purposes (e.g. polemics, interpretation); the ancients did not entertain the notion of verbal accuracy (or copyright). Such considerations should make us think twice before we speak of manipulations. Once a 'book' had been published, the user of a copy was under no obligation to acknowledge his source (cf. v. Groningen, 'EKDOSIS' *Mnemos.* IV-16 (1963) 1-17). Since most of the time a critical confrontation was intended, one would think it more effective for the person addressed to be mentioned. Not so in antiquity, see Ziegler, 'Plagiat', *RE* XX.2 (1950), cols. 1956-1997, esp. 1963 ff. As a result charges of plagiarism are wide-spread and well-known in antiquity, see e.g. Grafton (1990), 3 ff.

¹¹⁴ We may think of notes that preceded an ὑπόμνημα or an ὑπομνηματικόν ('draft versions' for publication), see Dorandi (1991) 23, 26 ff.

were not consistent in their selectiveness or in their refutations.¹¹⁵ They selected what seemed appropriate at the time and in the given context for different purposes (polemical, illustrative etc.), and organised their material and arguments according to loose criteria. Some argument forms may have been chosen deliberately, others may have been induced by rhetorical habit or training. However this may be, the result can perhaps be described as an organisation according to “the sequence of thought and association of ideas”¹¹⁶ rather than a fully premeditated plan of an explicit and formal structure. At any rate, we saw that it is hard, if not impossible, to find an intrinsic rationale in the sequence of arguments in the sections on Plato and Democritus.

In the end the nature of report and criticism resists full analysis because we are unable to fill in a number of gaps in an adequate way. These gaps may not have been important to Theophrastus. Perhaps our suppositions stand in our way, when we say that the brevity of the summary is the result of a ‘remarkable’ ability to be selective, or an inability to be ‘historical’, or that ‘crucial’ points escape his attention.¹¹⁷ The questions we ask and the terms we use betray our own standards of dealing with texts. We must keep in mind that Theophrastus did not have the same ‘standards’ of treating texts as we do, simply because no standards had yet fully crystallised from practice.

With regard to the quality of the excerpts the conclusion seems warranted that Theophrastus is unable (or unwilling?) to escape from the Peripatetic frame of mind. His neglect of the general context or framework in which Plato situated his account of sensation (but which seems to have had marginal or no meaning at all to Theophrastus¹¹⁸) is understandable from his point of view. In other words, the original purpose of the *Tim.* as a whole was irrelevant to him in *DS*. His

¹¹⁵ In a systematic context Aristotle usually elaborates on the views opposed to his, without specifically mentioning views similar to his.

¹¹⁶ On this point I draw on the helpful remarks on polemical procedures by H. Cherniss (1976), esp. 396f.

¹¹⁷ We should keep this in mind, because in the passages on the Presocratics his method of selecting seems similar (see next chapter).

¹¹⁸ Although in *DS* 86 the phrase “of the proportions ... we have neither a *necessary* nor a *probable account*” (to us) expresses an epistemological reserve essential to the status of Plato’s cosmological account as a whole, Theophrastus’ reference to it must be taken as a mechanical echo. Note that it is in contradiction with the assessment of Regenbogen, col. 1554.21 ff. who emphasizes the importance of *onoma* for Theophrastus.

'insensitivity' may seem incompatible with the general picture of his approach, which usually is well-informed¹¹⁹ or with his judgement, which is by and large carefully stated. But on the other hand there is something to be said for his sense of discipline and brevity, which purposely ignores information that bears no relation on his aim, viz. to find explicit remarks pertaining to the physiology of perception. His method of excerpting can only partly be explained by his Aristotelian outlook which influences his predilections in what he reports. Fortunately we are in a slightly better position to understand the forms of dialectical argument which direct his criticisms.

¹¹⁹ See *Phys. Op.* Fr. 9 [above n. 18] where the gist of the *Tim.* is given in only a few lines.

APPENDIX

Reaction to a Recent Article [ch. 4, n.8]

In a recent article which appeared after my dissertation A.A. Long (1996) gives a valuable analysis of how Theophrastus' report of Plato's views strikes the modern reader as disappointing and misleading. Long and I approach the text from two different angles and yet we agree on important points: that there are significant discrepancies between the *DS* and the *Timaeus*, that it is very difficult to find a good reason for these. Moreover, his analysis of the 'meat' of the arguments complements mine very well, which focuses on the 'bones'. However, we part company over the way in which Long has chosen to explain these discrepancies and, more specifically, the way in which he formulates his critique of Theophrastus, which seems to me too harsh and to ignore other possibilities.

A general objection would be that Long seems to have an axe to grind and this attitude leads to a rather unfair judgement of Theophrastus' reports. The deeper cause for his approach remains hidden. From the outset Long's account is more sympathetic to Plato, while mine (as he points out, 361 n.16) is more sympathetic to Theophrastus. I think that both his starting-point (346) and certain unexpressed presuppositions are at the root of this approach.

First, he aims "to exhibit what happens when we study Theophrastus' treatment of Plato in the *DS* on the basis of Stratton's observation". Stratton's observation, which states that Theophrastus' report is based exclusively on the *Tim.* (L. 346 n.3) and should induce us to see Theophrastus "at work with the *Tim.* spread before him", is simply accepted. That the *Tim.* was his source need not be doubted, but my objection was (and is) that the picture conjured up of Theophrastus with the text 'before him' is misleading. It would imply that any discrepancy is the result of intentional suppression or selection. My suggestion was to picture the procedure as far less simple and straightforward. I did not, as Long claims (346 n. 5), assume that Theophrastus based his writing on the excerpts *only*, but rather that he used *both* (see e.g. p. 129 of the dissertation). One can think of all kinds of intermediate steps that may explain variations in accuracy: by making

it probable that he also made use of excerpts I suggested Theophrastus could have consulted text and excerpts on and off, while he could also be working from memory (for a probable example of the latter, see my discussion of *DS* 83 in Ch. 4, pp. 111-112). These three factors (text, excerpts, memory) should at least be considered as influencing the outcome of the version of the text (leaving out for the moment other, more mechanical causes of corruption in the transmission of the text).

This brings me to the second and more serious objection. There is at least a slight inconsistency in Long if we look at the way in which his descriptions of Theophrastus' procedure are formulated. For even if Long agrees with my cautionary note that we should not apply modern standards of accuracy (361), this is exactly what he keeps on doing: while following Stratton too closely (noted above), he characterizes Theophrastus with mostly negative terms whenever comparison between the texts shows up omissions or discrepancies, e.g. "he suppresses Plato's account" (347), "careless and defective" (353), "Theophrastus credits him with a misleadingly crude theory of seeing" (351), whereas he is praised when the opposite is the case, "he cites Plato almost *verbatim*" (351). But we may ask: are all the omissions the result of selective suppression? And also: misleading to whom? The assumption here is that Theophrastus' report is (always?) compared with the 'original'. Again verbal accuracy is used as the ultimate standard. So while Long acknowledges that Theophrastus is both accurate and defective, he keeps making accuracy the benchmark for judging Theophrastus' reports. Moreover, I would hold that accuracy in *reporting* and accuracy in *interpreting* Plato (whether based on excerpts or not) are separate issues, and that it is here that Theophrastus may obtain a variable score.

All in all, I have strong doubts as to whether the observation that Theophrastus' reports do not agree word for word with the *Timaeus* text as we have it, should lead us to infer that this is the result of intentional misrepresentation in each and every case. Thus the statement that "Theophrastus is simply very uneven in his level of accuracy and clarity" (362) says more about the underlying assumption than its value as an assessment of Theophrastus (*viz.* that he should be even in his level of accuracy and clarity). Long is probably right in saying that we must judge differently (if judge we must) on the report of sight and hearing as compared to the rest. But his unsurprising conclusion that "we do not need Theophrastus for studying Plato" (362) gives away the unhelpful framework within which he chooses to place his useful

analysis of individual passages. On the whole, I think we should not be so judgmental, if we think that accuracy is not a fair criterion.

A more specific reason for the considerations just given is the fact that other evidence (not mentioned by Long) regarding the accuracy of Theophrastus' approach towards Plato exists, which may be used to be less judgmental according to the criterion of accuracy, and to allow for other reasons for the state of the evidence. For example, in *de causis plantarum* 6.1 Theophrastus' account of flavours is very accurate (both in representation of detail and in vocabulary) compared to *DS*. I have suggested elsewhere (Baltussen *Mnemosyne* 1993) that it is feasible to take this as an indication of Theophrastus' different approach in different contexts, i.e. the level of accuracy becomes adjusted to the requirements of the context. Thus when he discusses the flavours in the context of his own views on this topic, he gives us an extensive and accurate account of what we find in the *Tim*.

All this I bring forward to balance the conclusions of Long. I would be less certain than is Long that there can be no other reasons for the problematic nature of parts of the account than Theophrastus being intentionally defective, misleading and tendentious. We cannot be certain that it is Theophrastus who is to blame for all the mishaps in the text. In my view Long too easily dismisses other possibilities, e.g. interference from a pupil or Theophrastus' Aristotelianism (362), to explain some of the problems in the reports (the first point is related to authorship and does not allow for further analysis; I have discussed the second in Baltussen 1998). In other words, Theophrastus' approach in other work should be compared in order to establish a fair assessment of his method of representing the views of his predecessors. I would hold that some of the problematic passages in *DS* strike me as untypical of his approach, and I would therefore be inclined to seek other causes, in particular along the lines set out in this book (dialectical motives).

Moreover, since I disagree with some of Long's conclusions on Plato, I would also express doubts about extrapolating these conclusions onto the Presocratics (362). They are in two different leagues: Theophrastus' positions and prejudices are different, the material poses different problems, and we are very poorly informed about the state of the (textual) evidence of Presocratic material when Theophrastus was reporting from it. It is possible that the disagreement can perhaps be reduced to the initial value one attributes to a text such as the *DS*. My main concern was to study the *DS* as a Theophrastean

piece of work within the framework of his own philosophical views and methodology. If this is the reason why my account seems "too apologetic" (Long, 361 n.16), it is mainly because I have tried to approach Theophrastus on his own terms, reaching what I take to be a better understanding of his methodology. As Long has shown, I could have taken my analysis further, but in any event I would submit that *DS* should not be studied for Plato, but for Theophrastus.

One minor point should finally be mentioned: the observation that the Platonist Alcinous was directly or indirectly influenced by the *DS* (Long, p. 348 n. 9) does not go back to Dillon (tr. 1993) but to Whittaker (1989) [see Bibliography], who first observed similarities between *DS* and Alcinous (rather than between Alcinous and *Tim.*, as one would expect). Whittaker recorded them in the new Budé edition of 1993 in the upper app. crit. Direct influence is unlikely on general grounds (there was no good access to such individual works in this age of handbooks), but also because of the limited number of passages which exhibit similarity. I have suggested (diss. 248-9, a view endorsed by J. Whittaker) that the remarks by Theophrastus were seized upon by Platonists as convenient summaries of certain passages (similarly Dillon o.c. 144 end, 145 end). It is therefore very likely that the Theophrastean versions had fused into the Academic tradition relatively early, a conclusion which is strengthened by wider interest among later Platonists in Theophrastus' comments on Plato (see Appendix C in this volume = dissertation Appendix B).

CHAPTER FIVE

THEOPHRASTUS' CRITICISMS OF THE PRESOCRATICS

1. *Theophrastus' Method in his Criticisms*

Statements regarding method and aims of a treatise were a common element in Aristotle's procedure and have helped to clarify the place and purpose of his treatises.¹ The absence of explicit statements regarding the method in the *DS* (insofar as it survives) suggests that in this work Theophrastus is not concerned with speculating on method. His views on this aspect of the work must be clarified from his *de facto* approach.

Theophrastus' works (other than *DS*) are, as we saw, also less explicit than Aristotle in this respect. But his occasional remarks did allow us to get a general impression of his ideas on methodological procedures. We noticed that there is a marked difference between the *DS* and other works. Bearing this in mind we have to look for *implicit* traces of Theophrastus' approach (underlying thought patterns). This approach is adopted to distinguish implicit method from explicit objectives. In view of the large *number* of objections in the text the question of their *raison d'être* forces itself upon us, in particular when we consider the fact that in many cases just one would have sufficed to refute the point at issue.

1.1. *Previous Interpretations*

It will be useful to quote and put in perspective some observations on Theophrastus' method in the *DS* made by previous scholars.² This will

¹ Some examples were given in Ch. 2.2 (see esp. nn. 58, 61). According to Aristoxenos (Στοιχεῖα ἀρμονικά, B.1, p. 30 Meibom [= Macran, p. 122.6-14]) it was Aristotle's habit to define his subject at the beginning of a lecture (after Reinach in *Festschrift Th. Gomperz*, Wien, 1902: 75).

² I have confined myself here to the most important contributions of previous investigations. Other remarks concerning the methodology will be mentioned along the way. A full list of publications dealing with the *DS* is given in Appendix B.

illustrate, on the one hand, the incidental attention this aspect of the treatise received over the years and, on the other, will also show that most scholars gave characterisations of Theophrastus' working procedures which are partial at best.

Theophrastus' critical approach towards the views of his predecessors is incisive and often to the point. Yet his approach in the *DS* has been characterised as biased and unfair, in particular by J. McDiarmid whose main objection is that the views of the Presocratics became distorted as soon as they were expressed in the highly developed and technical vocabulary of the Peripatos. That this is a verdict which is not always helpful is now commonly accepted.³

McDiarmid (1953) applied Cherniss's picture of Aristotle's working method (in which 'distortion' was a dominant concept) to Theophrastus in his study of the fragments on the first principles. Despite the many useful observations on Theophrastus' approach he has exaggerated the degree of misrepresentation. His approach is restricted in method and subject: he follows Cherniss too closely in his 'distortion theory' and only uses the fragments from Theophrastus' *Physics* (most of which come from Simplicius). Both have been criticised in more recent years.⁴

Hermann Usener was concerned with the larger context the treatise belonged to and stressed the historical order of exposition as well as the systematic nature of references to older views (1858: 27 [= *Kl. Schr.* I, 72]):

certum tamen de Theophrastei libri ratione documentum hoc est quod Simplicius f. 6v dicit, [...] libellus περὶ αἰσθήσεων prospera fortuna servatus *eadem ratione* atque illud περὶ ἀρχῶν fragmentum perscriptus est.

(It is however certain what Simplicius says regarding the method of Theophrastus' work, viz. that ... the little book *On the senses* — preserved by some miraculous luck — was organised in the same way as the fragment *On the first principles*.)

³ Cherniss himself seems to have thought that his remarks regarding the degree of distortion were misunderstood, see Mourelatos, *Anc. Philos.* IX-1 (1989) 117 n.1: "in conversation C. used to admonish readers that his goal had not been to show up Aristotle as a bad historian, but rather to encourage scrutiny and appreciation of the full context of Aristotle's dialectical philosophizing."

⁴ Cf. Baldes (1972); Löbl (1977); Schickert (1977).

Usener's argument is rather elliptic and hardly sufficient to prove his point about the method (and consequently the status) of the *DS* and his additional arguments (see Ch. 7) do not do much to corroborate the main thesis.

Diels (1887) observed that Theophrastus is keen to emphasize the elements common and peculiar to the theories, indicating the idiosyncratic elements along with more traditional views. From our point of view this aspect of Theophrastus' approach can be nicely explained by the endoxic nature of the dialectical method.

Stratton (1907) gives a sound analysis of some of the "principles wider than any special doctrine of perception".⁵ Out of the various approaches of Theophrastus' arguments he distilled eight argumentative 'rules', e.g. on the complex nature of explanation, the correspondence between organ and object, the difference between causal relation and concomitance, and the importance of elegance and economy of a theory. But he failed to indicate their mutual relationship, thus putting on a par major and minor principles of argumentation. These points of criticism, however, pertain to details and do not affect his general picture of Theophrastus' methodology in the *DS*.⁶

Another important characterisation of Theophrastus' approach was given by Regenbogen (1940). His summary of the work as a whole is remarkably lucid and within a brief compass. He pointed to the enormous number of objections and surmised that they must be of a preparatory nature.⁷ It is indeed hard to imagine that these objections do not serve a more than polemical purpose. But the number of criticisms is not the only problematic aspect; their character also needs further clarification, in particular their interrelations (hierarchy) and correspondences ('typology').

Among the stray remarks on Theophrastus' methodology in the *DS* by scholars dealing with Presocratic philosophy, some very useful observations on method are made by K. von Fritz (1953) in his analysis of Democritus' theory of vision. Let me quote two examples. He made the useful (though partly incorrect) assessment, first, that

⁵ Stratton, 56.

⁶ See his introductory chapter. For another point which Stratton's approach fails to take into account, see Ch. 4, n. 52.

⁷ "sonst ist die Arbeit vertan und die Kritik stumpf", Regenbogen, col. 1400.16-17. But we should distinguish between preparation and introduction, see Baltussen (1998).

This report [i.e. in the *DS*] is critical and historical. It is historical in the sense that Theophrastus does not only presents the theories ... in chronological order, but is also careful to point out the agreements and disagreements between a philosopher and his predecessors. Theophrastus' report is critical inasmuch as he tries to prove the insufficiency of all pre-Aristotelian theories of perception by pointing out what he considers their self-contradictions.⁸

This is useful in its general purport, despite the fact that his use of the term 'historical' is too wide. It is partly incorrect because chronology is not always the ordering principle.⁹ Another remark does go one step further; it is his observation that

Theophrastus often mingles his report with his criticism in such a way that important details of Democritus' theory are revealed only implicitly through his criticism, a procedure which does not make for clarity.

This point on indirect access to details is important, but no one has yet *used* this information for *our* understanding of Theophrastus' understanding of the views discussed. It should be kept in mind, as it is valid for the other parts of the *DS* as well. In addition I note that the alternation of report and criticism is more frequent and more extensive in the passages dealing with Democritus than anywhere else.¹⁰

By far the best characterisation of Theophrastus' method is found in Kahn's monograph on Anaximander (1960). In one page all important aspects of Theophrastus' approach are covered. Kahn first notes the difference between three (clearly distinct) "procedures" (as he calls them) in both parts, namely general statement of the problem, report and criticism. Next the Aristotelian influence is evaluated:

the Aristotelian influence is not equally distributed over the different parts ... The expository section is in general much fuller than Aristotle's own mention of his predecessors' views, and there is in many cases no Aristotelian reference whatsoever to the doctrine reported by Theophrastus. The case of his critical judgement is similar. Sometimes the objections presuppose an Aristotelian point of

⁸ von Fritz (1953) 83. Note that he here echoes the remark Diels already made (quoted earlier) about the common and peculiar elements.

⁹ As was kindly pointed out to me by David Runia. Often the term 'historical' refers to the reporting of views or facts. I disagree with von Fritz who includes (dis-)agreements into the definition of 'historical'; I would prefer to call these 'systematic' (cf. Ch. 2.3).

¹⁰ See above Ch. 3.2.2.

view, but more often they are aimed at internal inconsistencies or incompleteness in the doctrines described.¹¹

As we will presently see, my analysis will fully exemplify this. Kahn also points out that “Theophrastus’ motive in reporting the views of the early Greek philosophers is by no means purely historical” but is to be understood in the light of Arist. *Metaph.* B.¹²

I should also mention a more recent contribution to our subject by Denis O’Brien (1981; 1984). In his elaborate study of theories of weight he was the second commentator to pay attention to Theophrastus’ criticisms of Democritus’ and Plato’s views.¹³ Of special interest to us is his careful restatement of Cherniss’s view in which he observes that Theophrastus’ exegesis is “presented with an eye to interests and preoccupations that do not always match those of the original theory” (1981: 147). Insofar as this still implies distortion, it remains to be seen in each individual case whether and to what extent this assessment can be sustained.

Finally, two very recent papers pay considerable attention to Theophrastus’ arguments in relation to Aristotle. As we saw in Ch. 4, Long (1996) argues that there is a certain degree of misrepresentation on the part of Theophrastus when reporting Plato’s views from the *Timaeus*. One may differ as to the exact reasons for Theophrastus’ inaccuracies, but it is certainly true (and not to be excused) that his version of the *Timaeus* passages is, as far as we can tell, colored as a result of his own philosophical and ‘philological’ standards.¹⁴ Mansfeld (1996) has pointed to several aspects in which Theophrastus is following Aristotle, e.g. in his use of the *diaeresis* (170), but also to further developments and corrections.

Our analysis, then, may be said to set off from these suggestions in that it tries to exemplify this critical method as well as explain its origin. We should start by setting out his selection of *doxai*, then to

¹¹ Kahn (1960) 18.

¹² Kahn *ibid.* (cf. above Ch. 2, p. 22). But I would not agree with his use of the term ‘distort’ when he says (19) that “the systematic treatment of Theophrastus ... ends to distort the original form of the doctrines under consideration”. As I have argued earlier (2.2), ‘distortion’ is too strong an expression for both conscious and subconscious alterations in the text. I would prefer to confine the term to the first kind.

¹³ The first was McDiarmid (1959a), cf. Ch. 4. The most recent are Long (1996) and Mansfeld (1996), the most extensive O’Brien (1981), (1984).

¹⁴ See Ch. 4.1.2 & 4.2.

discuss the way in which views and corresponding criticisms are presented and structured before we give a detailed analysis of the criticisms.

1.2. *Appeal to Authority: Qualified Doxai*

From Aristotle onwards the motives for selecting views (*doxai*) in discussing philosophical problems began to vary considerably. This point should be explained here, since in later doxographies it is the tenets that matter most, not the persons who held them.¹⁵ In the Peripatetic perspective this is not always the case. Against the background of the view that (intellectual) history is cumulative and built on authoritative views, the role of the *endoxa* points to the importance of both the person and the tenet he endorsed; *endoxa* are, first of all, reputable views, that is they are views which are regarded plausible by the support they receive from the social and intellectual environment they come from.¹⁶ The value of a view — or at least its *prima facie* value — depended heavily on the acceptance it received among all, most people or some reputable persons. As such, individual views could outweigh those of many and could in a way also represent many as a good example of an outstanding and interesting view. That this is also the case in the *DS* can be shown from several angles.

Theophrastus' criterion for reporting a theory *extensively* was no doubt the completeness of the treatment of the subject. Completeness means ranging the full scope of theoretical aspects involved in explaining the phenomena and their interrelations. For instance, in *DS* 5 Theophrastus remarks that Empedocles has "considered the individual senses more extensively".¹⁷ It is significant that he often refers to this aspect when beginning or concluding a report.¹⁸ In the section on the similarity party (*DS* 5-24) completeness is in fact the most important reason for the order in which the adherents of this principle

¹⁵ This is persuasively argued by Mansfeld (1990) 3058 ff. (with full reference to earlier literature). See also Runia (1989) 269.

¹⁶ I.e. qualified by the persons who support them (as explained in Ch. 2, n. 35).

¹⁷ ἐπὶ πλέον μὲν ἥπται τῶν κατὰ μέρος ... (cf. next note). On ἄπτω in an *endoxic* context cf. Ar. *Metaph.* 984a28, b19; 985b24; 1073b9; 1078b20; *PA* 642a26; *Phys.* 191b35; 194a20-21; 203a2; *Pol.* 1341a31; 1342b29; *Top.* 171a24.

¹⁸ E.g. *DS* 26 Alcmeon ἐπὶ τοσοῦτον ἀφώρικεν; *DS* 59 ἐπὶ πλείστον εἰσιν ἡμμένοι; *DS* 60 ἐφ' ὅσον ... ἥπται. Apparently the extent to which an account is complete or not is an important criterion for emphasis.

(Parmenides-Plato-Empedocles) are discussed.¹⁹ Inversely Theophrastus points to gaps in the theories reported.²⁰ These may concern the *kinds* of senses, their *number* (*DS* 5) as well as the many aspects involved in *explaining* these. This strongly suggests that he had a full set of criteria at the back of his mind on the requirements of a theory of perception. The unobtrusive presence of these requirements may indicate that the treatment of these views belongs to a non-systematic context. A (true) historian has no axe of his own to grind. In other words, the views are reported in a reasonably objective way. Nevertheless, a critical analysis follows in which Peripatetic notions creep in at various moments. In short, the *endoxic* nature of the theories reported and their completeness (according to Peripatetic standards) constitute two important criteria for selecting views. These criteria can be inferred from the treatment of these views.

There are however also a few explicit statements — so to speak instances of self-characterisation — expressing (or indicating) the author's intentions and motives. Only few utterances put us in a position to assess in what way his approach is inspired by dialectic. The contentious tone in which Theophrastus elaborates upon certain points is not always easy to understand. Why should a theory be refuted at every point when already its general purport or basic principle is clearly shown to be defective? It is important that we understand this by looking at the nature of a correct or sufficient refutation as found in Aristotle's *Topics*. After all, stating objections is not automatically a sign of genuine disagreement.²¹

2. *Aspects of Structure and Presentation*

Whenever Theophrastus adds a number of objections to the *Referat* of a philosopher's views, he displays his ability to bring out the flaws and inconsistencies. What interests us is the nature of the procedures and the question what purpose they serve. Our analysis often follows the critical passages closely, but is not meant as a line-by-line

¹⁹ See A. Laks (1991).

²⁰ With terms such as ἀπολείπουσι, οὐ διορίζει and the like, *DS* 2; 59; cf. 83 παραλείπει. This is also a favourite term of Aristotle, e.g. *De cael.* 301a16.

²¹ Cf. Steinmetz (1964) 116 (cited Ch.2, n.94) and my paper "The Purpose of Theophrastus' *De sensibus* Reconsidered" (*Apeiron* 1998).

commentary.²² The analysis of the argument will focus on two different aspects:

- (i) the structure and hierarchy of the individual objections;
- (ii) the relationship between report and criticism.

Thus we shall try to unravel the general thrust of the objections. As a matter of principle it should be realised that any judgement on the trustworthiness of the information in the *DS* must be preceded by an investigation into motives which direct the discussion. At a later stage we will look at the dialectical features reflected in the broader principles of presentation and terminology in order to estimate the technical level of the discussion as a whole (Ch. 6).

2.1. *Remarks on Structure in DS 1-2*

As we saw (Ch. 1.2), the *DS* has a fairly orderly structure and condensed style. We may recall its main division into three parts here as a reminder of its Aristotelian background²³:

- I. Introduction. *DS* 1-2 (*diaeresis* of opinions; crucial arguments of both parties)
- II. On perception (3-58): A. *DS* 3-24 (τῷ ὁμοίῳ), B. *DS* 27-58 (τῷ ἐναντίῳ)
- III. On the objects of sense (59-92)

The accounts of the theories are densely formulated, yet very informative, and often followed by a critical evaluation. When studied more closely some aspects of structure and presentation tell us more about the author's initial motives.

The initial *diaeresis* or division of *DS* 1-2 does several things at the same time: (1) it makes a broad classification and thus creates a (simplified) order in the broad range of views.²⁴ The list of thinkers

²² Readers interested in fuller annotation are referred to Stratton (which however is somewhat dated). A new edition is forthcoming by A. Laks/ G. Most.

²³ Cf. Kahn, *loc.cit.* above n.11. Note that Heraclitus is mentioned in *DS* 1, but not discussed in the text; on this point cf. Ch.1, n.25 and Mansfeld (1996) 170f.

²⁴ In this case by dichotomy. A *diaeresis* is of course not always dichotomous; perhaps Theophrastus preferred this simplest form of antithesis (cf. *De sens.* 60, *CP* 6.1, *Phys.op.* fr. 1). See also next note. As noted above (Ch. 2.2) this type of *diaeresis*

constitutes a selection of pre-Aristotelian philosophers who expressed significant views on perception. (2) It reflects on the development of the search for explanations of perception. (3) It arranges the views according to the two principles which from a Peripatetic perspective (both) play a role in explaining the process of perception.

The opening paragraphs contain programmatic statements important for the treatise as a whole. The first sentence reads:

On perception the many opinions are, broadly speaking, of two kinds: some (people) let it come about by similarity, others through contrast. Parmenides, Empedocles and Plato by similarity, those who follow Anaxagoras and Heraclitus through contrast.²⁵

By dividing the many opinions on perception into two general categories,²⁶ this *diaeresis* or division aims at making a broad classification — in this case by dichotomy,²⁷ an approach we are familiar with in Aristotle.²⁸ But Theophrastus' discussion of the subject is clearly more elaborate. Thus this *divisio*, which anticipates many aspects of the search for explanations of perception, is clearly an analysis from hindsight. One feels compelled to infer that the summary of arguments must have been made after the material was surveyed. Otherwise it is hard to explain how Theophrastus can give such a precise summary of his more detailed discussions later on.²⁹ It is here that some intrusion

differs from the *diaeresis* of concepts in Aristotle's *Topics*. Cf. Mansfeld (1996) and below n.28.

²⁵ περὶ δ' αἰσθήσεως αἱ μὲν πολλαὶ καὶ καθόλου δόξαι δύο εἰσὶν· οἱ μὲν γὰρ τῷ ὁμοίῳ ποιοῦσιν, οἱ δὲ τῷ ἐναντίῳ. Παρμενίδης μὲν καὶ Ἐμπεδοκλῆς καὶ Πλάτων τῷ ὁμοίῳ, οἱ δὲ περὶ Ἀναξαγόραν καὶ Ἡράκλειτον τῷ ἐναντίῳ. For the translation of the phrase οἱ μὲν περὶ Ἀναξαγόραν καὶ Ἡράκλειτον see further below (text to n. 35).

²⁶ There is a shift of attention from the *opinions* in the first sentence (subject: αἱ μὲν πολλαὶ καὶ καθόλου δόξαι) to the *adherents* of the opinions in the second (subject: οἱ μὲν...οἱ δὲ). The emphasis however is on the *doxai*.

²⁷ A *diaeresis* is of course not always dichotomous as noted in n. 24. See also next note.

²⁸ With this *divisio* Theophrastus was not breaking new ground, neither in form nor in substance. The *divisio* can be found *in nuce* in Ar. *De an.* 416a29 where the two views are stated in passing in connection with growth. One step back in time we find it in Plato, *Lysis* 214A. On this *diaeresis* as “problemgeschichtliches Einteilungsschema”, see Müller (1965) xviii n.27. The division is often compared with Ar. *Phys.* A 187a12, for instance by Diels (*DG* 105) and Regenbogen, col. 1536.61-63; cf. now Mansfeld (1989) 138 ff., *id.* (1992a) ‘Appendix’.

²⁹ For *DS* 1-2 τῇ ὁμοιότητι θεωρεῖν, cf. *DS* 8, 15; τὰ συγγενῇ γνωρίζειν, cf. *DS* 14, 16; τῇ ἀπορροίᾳ κτλ., cf. *DS* 6, 8.

of Peripatetic terminology makes itself felt. For instance, by speaking of *alloiōsis* and "like unaffected by like" Theophrastus seems to rephrase in more technical terms the original arguments of the Presocratics. Yet it remains to be seen whether this is an attempt to draw these earlier theories nearer to Peripatetic doctrine or merely a case of 'linguistic updating' for his colleagues and pupils.

That the general structure of the work was the result of some plan can be inferred from several indications in the text. The orderliness of *DS* 1-2 not only provides the total of known views concisely and in detail, but also gives us clues for a clear demarcation of thematic sections. Thus we can easily distinguish the general introduction (*DS* 1 αὶ μὲν πολλὰ καὶ καθόλου δόξαι)³⁰ from a preview and clarification of the main arguments of both parties concerning the general process of perception ("the persuasive aspect for the one group was ..., the others assume that ..."), before we find a transition to details on individual organs (περὶ ἐκάστης δὲ τῶν κατὰ μέρος, *DS* 2).³¹

Such demarcations of exposition are less explicit in part I (3-58). The only clear signs of demarcation are for instance the names at the beginning of new sections³² and the immediate attempt to specify the principle adhered to by the thinker to be discussed (on which see Ch. 6.2.2). Further, a distinctive feature of the criticism is that the arguments are articulated by separating them by words such as ἔτι and ἔπειτα, which are characteristically used for chaining items in collections of views or arguments.³³

There is a discrepancy between the names mentioned in *DS* 1 and those in the rest of the work. It would appear that the seemingly intended completeness is reached through types of opinions rather than through individual enumeration.³⁴ This is especially clear in the case of Anaxagoras and Heraclitus (*DS* 1) where the formula οἱ περὶ ... indicates that a typological description is envisaged.³⁵ The discussion

³⁰ For the synoptic phrase πολλὰ καὶ καθόλου cf. *CP* 1.10.7.

³¹ It should be noted that here we have already entered the discussion of the similarity camp – οἱ μὲν ἄλλοι refers to Parmenides and Plato (cf. Laks, 1988: 262). Perhaps a few words (e.g. τῶν ὁμοίῳ ποιοῦντων) have dropped out here.

³² Cf. n.43 and Ch.1.

³³ As we have noted this could indicate that such arguments were previously collected in such lists connected by these words, which then found their way into the systematical treatises. In this it resembles the collections we know from e.g. the *Problemata* (cf. Flashar, 1983: 343).

³⁴ On possible reasons for this see Ch. 5.1.2.

³⁵ See M. Dubuisson, *ΟΙ ΑΜΦΙ ΤΙΝΑ-ΟΙ ΠΕΡΙ ΤΙΝΑ: l' évolution des sens et des emplois*

of the adherents of the like-by-like principle is directed by specific criteria: the order Parmenides/ Plato/ Empedocles for instance is one of increasing completeness.³⁶ For the contrast party Anaxagoras is the first example. Usually one view of the persons added forms a point of comparison with the preceding or following thinker. A more detailed analysis of these aspects will be given in due course. In view of the ensuing discussion, we should keep in mind that the *diaeresis* states contrary positions (although there is no actual discursive evaluation of the two positions).³⁷

The introduction ends with a summarizing remark as if to close a circle: “these views, then, on perception *in general* were handed down to us”. The sentence begins this new section (note μὲν οὖν³⁸) and the contrast between the explanation of the overall mechanism and that of the individual senses has a bridging function. The latter also serves to introduce the next issue: “as to *each of the senses separately* the others virtually fail to express themselves (σχεδὸν ἀπολείπουσιν), but Empedocles makes an attempt to refer these (πειρᾶται... ἀνάγειν) to similarity as well” (my italics). The contrast is here between καθόλου and (περὶ ἐκάστης δὲ τῶν) κατὰ μέρος. The author expects the theories to give explanations on both the general and the specific level, which in addition must be explicitly linked.³⁹ Apparently Empedocles is the only one who can live up to such a requirement.⁴⁰

2.2. Problems of Classification

In part II (*DS* 3-58) we see that the clear-cut division of *DS* 1-2 runs into some difficulties.

As noted Theophrastus does not observe strict chronology in his treatment of the ‘likeness party’ (3-24), either within a group or for the order of the whole. The order Parmenides-Plato-Empedocles is no

(Diss. Liège 77) on this formula. For a different view see Mansfeld 1996, 170 n.44.

³⁶ In terms of doctrine. See also Ch. 3.2.2.

³⁷ Compare the dialectical habit of reducing a statement to opposed propositions in order to explore the consequences (*Top.* A 2; *Θ* 3). See also Ch. 2.1.

³⁸ Standard Peripatetic formula of transition (Gottschalk, 1965: 137n; cf. *LSJ* 1271b s.v. οὖν II. and 1102a μὲν οὖν “so then”). Also found at *DS* 60, *De ign.* 62, *Vent.* 14.

³⁹ For these aspects of expository practice (of a more theoretical nature) in an account of sense-perception, compare Aristotle’s *De an.* B 5.416b32; B 6.418a7 ff.; *De sensu* 439a6.

⁴⁰ Cf. Ch. 1, n.26.

doubt due to the intention of Theophrastus to deal with their theories according to their increasing completeness.⁴¹ The information Theophrastus has on Parmenides is not very extensive, but squares well with what we have in other sources. Plato's position in this camp is not surprising, although Theophrastus seems to have taken his cue from the passage where Plato applies the principle not in a general sense, but to vision only.⁴² Empedocles' *explicit* reference to the similarity principle must have won him Theophrastus' tacit approval (note the fairly technical term *anagein*) and probably gave rise to his primary position in the likeness party (though Empedocles' *use* of the principle is not left uncriticised). Apparently chronology is not an important guideline in this connection.⁴³

In the treatment of the 'contrast' party Anaxagoras (27-37) is confidently ranged among the members of the contrast party. The structure of the section dealing with Democritus (*DS* 49-58) differs from all the others. First, Democritus (*DS* 49) seems to belong to both or neither party.⁴⁴ Second, the criticism is not given after the full report, but is inserted in between accounts of certain topics (*report* 49-50 ~ *criticism* 51-54; *report* 55-57 ~ *criticism* 57). The topics are seeing and hearing only, as with these he seems to make original contributions (*ἰδῖως λέγει*). On the other topics Democritus' views resemble those of others (*τὰς δὲ ἄλλας αἰσθήσεις σχεδὸν ὁμοίως ποιεῖ τοῖς πλείστοις*, *DS* 57 end).

Part II ends with a clear conclusion (*DS* 58): "such and in this number (*σχεδὸν αὐταὶ καὶ τοσαῦται*) are, I think, the opinions on perception and thinking which have come down to us from those of earlier times", thus giving this part a polished appearance with an explicit beginning and end.

⁴¹ Cf. above n.34. See also Mansfeld (1996) 172f.

⁴² *Tim.* 45-46. For other traces of the τῷ ὁμοίῳ-principle in the *Tim.* see Ch. 4. The addition of Alcmeon (*DS* 25-26) apparently disrupts the plan from *DS* 1, but can as we saw (above n. 24) be explained on the grounds of doctrine, which in some points is similar to, in others better than Empedocles'. Alcmeon himself only by inference belongs to the contrast party rather than the similarity party, but he seems to bridge the accounts on the theorists of similarity and that of the contrast party. Cf. Mansfeld (1996) 177f. and next n.

⁴³ We should also note that new names are added not mentioned in the introductory *diaeresis*: Alcmeon (25) is 'appended' because of agreement or disagreement on a specific point; Clidemus (38) is not explicitly acknowledged as member of the contrast party; Diogenes (39) even seems to be misplaced in the sequence of those favouring contrast: Διογένης ... δόξειεν ἂν τῷ ὁμοίῳ ποιεῖν <sc. τὴν αἴσθησιν>.

⁴⁴ See Baldes, 1976: 42 ff. and Ch. 1.2.3.

It is fair to say then that the intended ‘completeness’ of the overview in *DS* 1 is achieved with only minor deficiencies. That the general structure of the text was planned as such was inferred from clear linguistic signs of demarcation: the thematic sections are well-marked and we have no trouble distinguishing the general introduction (*DS* 1 αἱ μὲν πολλὰ καὶ καθόλου δόξαι)⁴⁵ from a preview and clarification of the main arguments of both parties concerning the general process of perception (“the persuasive aspect for the one group was ..., the others assume that ...”), before we find a transition to details on individual organs (περὶ ἐκάστης δὲ τῶν κατὰ μέρος, *DS* 2).

Although the demarcation of ‘subsections’ is less clear in part II (3-58) again we can take three features as consistent signposts of a new topic (see above on section I): (a) the names of the philosophers;⁴⁶ (b) the immediate attempts to specify the principle adhered to by the thinker to be discussed; (c) the connective ἔτι (δέ) and ἔπειτα as a distinctive feature typical in enumerative collections of views or arguments.⁴⁷

2.3. *Attention for Detail: Plato and Democritus*

In part III (*DS* 59 ff.) Theophrastus discusses the sense objects (αἰσθητά). This part is more focussed than the previous part and set off against it with the formula περὶ δὲ.⁴⁸ Again the plan of exposition is one according to a dichotomy, this time of two mutually exclusive positions.⁴⁹ Theophrastus wants us to believe that most thinkers have neglected or have only poorly commented on the objects of sense. Here too Theophrastus makes much of the basic assumption of their theory (*hypothesis*, *DS* 60) and he adds elaborate criticism of specific details.⁵⁰ The remaining paragraphs (*DS* 61 ff.) are taken up by a

⁴⁵ The synoptic phrase πολλὰ καὶ καθόλου can also be found in *CP* 1.10.7.

⁴⁶ Cf. n.32.

⁴⁷ In this it resembles the collections we know from e.g. the *Problemata* (cf. above n. 33).

⁴⁸ On the particle δὲ see my remarks regarding *DS* 1 in Ch. 1, n. 22.

⁴⁹ The ἄλλοι are, on the one hand, Empedocles and Anaxagoras (each the chief representative of their group) and on the other, certain other thinkers who maintained that black and white are the basic principles of colours. On black and white compare Aristotle, *De sensu* 439b20- 440a19; 445b21-26; *Top.* 109a27-36 (color as the genus of black and white and shades between); 123b26.

⁵⁰ This immediate evaluation of the relation between the basic assumption and the supporting arguments is an important part of his ‘theoretical conditions’. Cf. above Ch. 3.2.3 and below Ch. 6.3.

discussion of the views of Democritus and Plato, because they *did* treat sense objects in detail (*DS* 60, "they touched upon these matters more extensively, as they define many individual points"). Here the evaluation of their position with regard to the basic principle becomes a somewhat forced attempt to create a cross-over of basic postulates, since their statements regarding the nature (*physis*)⁵¹ of the sense objects seem to go against their general principle and consequently "each of these thinkers would seem to speak directly counter to his own *hypothesis*".⁵² Regardless of the truth of this assertion, this is the interpretation presented as programmatic for the paragraphs to follow.

The thematic sections of these discussions are marked by the topic at the beginning (e.g. "on heavy and light ...", "on colors ...") and are clearly influenced by the source. The amazing amount of detail regarding the theories of both thinkers is hard to account for unless one assumes that our text preserves the order of the original treatises (or *epitomai* of these works, cf. p. 106). That this hardly solves problems of a more philosophical kind need not be emphasized and the question whether this account faithfully reflects genuine doctrine remains to be answered.

For Democritus again a slight divergence in the presentation of report and criticism occurs.

For Democritus this can be visualised as follows:

S. 61-68

(1) βαρὺ καὶ κούφον

(2) περὶ σκληροῦ καὶ μαλακοῦ [n.b.
1 and 2 jointly concluded, *DS* 63;
cf. 71]

S. 68-73

(a) ἄτοπον δ' ἂν φανείη πρῶτον μὲν
τὸ μὴ πάντων ὁμοίως ἀποδοῦναι τὰς
αἰτίας

(b=1') βαρέος/ κούφου [etc. sub 1,
2] καθ' αὐτὰ ... φύσεις ... θερμὸν δὲ
καὶ ψυχρὸν καὶ τὰ ἄλλα πρὸς τὴν
αἴσθησιν

(c) ὅλως δὲ μέγιστον ἐναντίωμα καὶ
κοινὸν ἐπὶ πάντων, ἅμα μὲν πάθη
ποιεῖν τῆς αἰσθήσεως, ἅμα δὲ τοῖς
σχήμασι διορίζειν

⁵¹ On this specific point see *DS* 59, 89 and my remarks in Ch. 4.2 sec. III.

⁵² ὥστε δόξειεν ἂν ἐκάτερος ἐναντίως τῇ ὑποθέσει λέγειν, *DS* 60 (tr. Stratton, slightly modified). They each seem to present arguments which fit the other's thesis better; but Theophrastus does not work out a (dialectical) confrontation *between* the two views.

(3) τῶν ἄλλων αἰσθητῶν ... οὐδε τοῦ ψυχροῦ καὶ τοῦ θερμοῦ φύσιν [DS 63 discusses the central thesis from DS 60, lack of a φύσις; cf. 65, 71]

(4) σημείον δ' ὥς οὐκ εἰσὶ φύσει τὸ μὴ ταῦτ' ἅσι φαίνεσθαι τοῖς ζώοις... φύσει... ἔτι δὲ ...

(5) ἀπλῶς ... περὶ τῶν αἰσθητῶν οὕτω ... ἀνατίθησι τοῖς σχήμασι

(6) τὰς μορφάς ...χυλῶν καὶ τῶν χρωμάτων ἀκριβέστερον (DS 65 τὸν ὀξύν... τὸν γλυκύν / DS 66 τὸν στρυφνόν ... τὸν πικρὸν ... ἄλμυρὸν / DS 67 τὸν δριμύν ...)

(7) ὡσαύτως δὲ καὶ τὰς ἄλλας ... ἀνάγων εἰς τὰ σχήματα. ἀπάντων δὲ τῶν σχημάτων οὐδὲν ἀκέραιον [figures intermingle; we sense the preponderant one; section on tastes explicitly concluded]

(d=3') ἄτοπον δὲ καὶ τὸ πᾶσιν ἄξιον ταῦτ' φαίνεσθαι τῶν αὐτῶν αἰσθανομένοις

(e=4') ἔτι δὲ εἴπερ μὴ ἔστι φύσις τῶν αἰσθητῶν διὰ τὸ μὴ ταῦτ' ἅσι φαίνεσθαι, δηλὸν ὥς οὐδὲ τῶν ζώων οὐδὲ τῶν ἄλλων σωματῶν

(f=6') καίτοι εἰ μὴ καὶ διὰ τῶν αὐτῶν γίνεται πᾶσι τὸ γλυκὺ καὶ τὸ πικρὸν, ἀλλ' ἢ γε φύσις τοῦ πικροῦ καὶ τοῦ γλυκεῖος ἢ αὐτὴ φαίνεται πᾶσιν

(g=7') γίνεσθαι ἕκαστον καὶ εἶναι κατ' ἀλήθειαν ... ἐναντίον. νῦν δὲ σκληροῦ μὲν καὶ μαλακοῦ καὶ βαρέος καὶ κούφου ποιεῖ τιν' οὐσίαν, ἅπερ οὐχ ἥττον ἔδοξε λέγεσθαι πρὸς ἡμᾶς, θερμοῦ δὲ καὶ ψυχροῦ καὶ τῶν ἄλλων οὐδενός.

Theophrastus formulates criticisms between smaller chunks of reports (the *report* in 61-68 corresponds to *criticism* in 68-72, as does 73-78 to 79-82). It is noteworthy and perhaps significant that in both sections on Democritus such a deviation in the method of exposition can be found. One reason for this could be that different works were used for the excerpts.⁵³ This could mean that in each individual case Theophrastus first added his critical remarks before proceeding to the next topic. If this is true, it might support the assumption that Theophrastus had to make an effort to collect information from different quarters in order to obtain specific information from writings which antedated the compartmentalized view of science.

As we saw (Ch.4) Plato is discussed in a like manner as far as the demarcation of topics is concerned. Theophrastus paraphrases the views on e.g. hot and cold, soft and hard, tastes, smells, sounds and colors (DS 82-86; see ch. 4.3). The end of the report (DS 86, end) is explicitly concluded with an interesting remark: "This gives fairly well the things he said and how he defined them" (ἃ μὲν οὖν εἶρηκε καὶ πῶς

⁵³ Cf. the hypothesis advanced by Baldes (1976) n.8 that Theophrastus used different works of Democritus. See also Ch. 4, n. 64 and below n. 161.

ἀφώρικε, σχεδὸν ταῦτά ἐστιν).⁵⁴ This could be taken *either* as an expression of contentment regarding the sufficiency of the account/summary just presented *or* as an indication that the information found here was all the reporter had at his disposal.

To sum up, let me emphasize those points that are important for what follows. The discussion of some general characteristics of Theophrastus' argumentation was meant to expose some systematic and orderly features underlying the structure of the treatise. These indicate that the *DS* is the result of a premeditated plan of exposition, which becomes intertwined with the order as found in the sources used. To explain such an approach we must carry out a closer investigation of the arguments, since at first glance one would not expect such an approach in a collection of worknotes merely meant for personal use (e.g. as a reference book of physical opinions). As a *type* of work the *DS* would seem to fit the general Peripatetic practice of collecting material in overviews. On the other hand it does not seem to use the style found in Theophrastus' *opuscula*.⁵⁵ Furthermore, the lack of a systematic treatment of Peripatetic views makes the status of the text problematic. I intend to return to this problem after an analysis of the critical passages, where I will study the function these criticisms may have had.

3. *The Critical Arguments Against the Protagonists*

It is, in one word, the task of a knowledgeable person to avoid falsities in the subjects he knows, and to be able to show up the man who makes them (*Soph.El.* 165a25 ff.)

Sofar we have studied the argumentation in *DS* at different levels. At a more general level we looked at style (3.2), excerpting technique (4.2), and structure (5.2), thus clarifying the order of exposition, the composition, and types of questions and criteria used by Theophrastus. These features provide stepping stones for interpreting the text as to its intentions and results. We may now proceed to deal with individual arguments. In the present (and following) subsection the analysis aims at exposing the progression of the criticisms and the possible

⁵⁴ On the formula μὲν οὖν ... σχεδὸν ταῦτά ἐστιν cf. above n. 38 and Ch. 2, n. 149. Note that, unlike part 1, there is no final statement concluding part 2 as a whole.

⁵⁵ See Ch. 2, n. 108.

argumentative thought patterns underlying these. The hierarchy and interrelations of the objections will be emphasized in order to detect the broader coherence and importance of the sections on one thinker as a whole. The emphasis will be on the technical elements of the argumentation and the relationship between the individual objections stated, occasionally showing up a glimpse of Theophrastus' own theory of sense perception. In doing so we will try to answer three related questions: (i) are the sections on individual thinkers thoroughly revised and polished pieces of writing? (ii) are the reports in any way influenced by the criticisms (or v.v.)? (iii) to what extent do the critical evaluations mirror the technicalities of dialectical reasoning?

I begin with Empedocles (5.3.1) and Anaxagoras (5.3.2) who are presented as the two champions of the main positions in the theories of perception, viz. similarity and contrast.

3.1. *The Criticisms of Empedocles*

Empedocles' theory is the first of the similarity group to be critically examined (*DS* 12-24). Quite a number of the objections raised are aporetic in tone and the questions are directed by a general Peripatetic perspective of the perceptive processes. At first glance the structure of the sequence of objections does not seem to follow a definite plan. But closer study may alter this first impression to some extent.

Theophrastus' evaluation constitutes an array of objections connected to a few central issues.⁵⁶ The majority of the objections focus on one particular aspect, viz. the 'fitting' of particles into pores. This is reported to be Empedocles' central assumption in explaining sensation (*DS* 7). Theophrastus objects to this principle which obviously goes no further than to assume that the stimulus arousing sensation is also its cause. As we will see, this is a general criticism against all Presocratics.

(1) The first question "how do animate beings differ from other 'beings', i.e. inanimate things?" is introduced in an aporetic fashion (*DS* 12).⁵⁷ The question is inspired by his interpretation of Empedocles'

⁵⁶ The numbering of the objections is merely for the sake of convenience. Regenbogen's assertion that in the section on Empedocles Theophrastus formulated *twelve* aporiai (Regenbogen, col. 1400) is questionable. Although this is not meant to be a running commentary, I will go through the criticisms one by one, distinguishing 15 separate points levelled against Empedocles.

⁵⁷ ἀπορήσειε δ' ἂν τις ἐξ ὧν λέγει πρῶτον μὲν, τί διοίσει τὰ ἔμψυχα πρὸς τὸ

theory that "in general, mixture is through concinnity with the pores" (*DS* 12). Theophrastus interpretes this as a universal rule. The difference between ἔμψυχοι and ἄψυχα — an *endoxon* accepted by Aristotle and Theophrastus and at the basis of the division of their works in physics — returns at *DS* 36 and 46 (cf. 48) where Anaxagoras and Diogenes are rebuked for the same omission. It is also found in *DS* 25 where this (at times neglected) detail is explicitly mentioned as being accounted for by Alcmeon.⁵⁸

Theophrastus gives a counter-example which affects the universal claim: he tries to show that "fitting into" (ἐναρμόττειν) is not a sufficient description or explanation of perception. Second, if read as the definition of perception it would entail that different processes such as perception, mixture and growth are identical, unless some kind of distinction is added. The term used at this point (διαφορά) belongs to a technical context; the well-known Aristotelian approach towards definition as describing a thing according to genus and differentia (*per genus et differentiam*) is found in seminal form in Aristotle's *Topics*.⁵⁹ Moreover, being able to see what is similar and what different is not just a technical rule, but a fundamental part of one's mental abilities and a quality presupposed in the trained dialectician.⁶⁰ We shall see that the 'diaphora' argument' appears several times.⁶¹

(2) In *DS* 13 Empedocles' account of vision is examined⁶² and several points of detail are worked out by Theophrastus. Its basic

αἰσθάνεσθαι τῶν ἄλλων. See Mansion (1961) 45; cf. also Ar. *De an.* A 2.404a25-27, A 3.407b24f., and esp. B 2.413a20 ff. λέγομεν οὖν, ἀρχὴν λαβόντες τῆς σκέψεως, διωρίσθαι τὸ ἔμψυχον τοῦ ἄψυχου τῷ ζῆν ... διὸ καὶ τὰ φύόμενα πάντα δοκεῖ ζῆν.

⁵⁸ This is the first of more examples which give us an inkling of the systematic background of the evaluations in the *DS*. The reference to it in *DS* 25 can almost be read as an implicit compliment, since Alcmeon has done better than his colleagues on this point (as well as others).

⁵⁹ See Ch. 2.1.

⁶⁰ And the dialectical trainee; see Ch. 2, n. 26 (*Top.*) and n. 38 (*Rhet.*). On the usefulness of distinctions cf. Arist., *GA* 427b10-11.

⁶¹ On definition see below Ch. 6.1.1 (i).

⁶² Vision was important to Empedocles' theory, see B91 DK. Aristotle also makes some remarks on certain aspects, e.g. on the passages, *GC* 324b26 (A87 DK); on the role of fire, *De sensu* 437b9; on color and night vision, *GA* 779b15 (both in B91 DK); on the light from the sun, *De an.* 418b20 (DK 31A57). Compare also Alex. Aphrod. *Quaest.* II.23 p. 72.9 Bruns (= A89 DK = Sharples 1994, 28f.); according to Diels a text belonging to the *Phys. Op.* (cf. Sharples 1994, n.133).

mechanism is that of ‘effluences’ fitting into passages.⁶³ Since Empedocles seems to distinguish the fire inside from the fire outside, Theophrastus asks “why then should the former be more fit to perceive than the latter?”; again the distinctive feature which gives rise to the effect of blocking is not given. Without stating the *diaphora* it is not clear how this effect is caused: “therefore, if it were similar in every way and in general, there would be no perception at all”. The most prominent question is: “are the passages empty or full?” Theophrastus here touches upon the problem of the void and freely theorises about *possible* consequences⁶⁴ of the answers to his question; he finds a self-contradiction in Empedocles’ explanation (συμβαίνει διαφωνεῖν ἑαυτῷ) “for he says that there is absolutely no void” [*DS* 13, contrast 31B13-14 DK], while it is said that pores can be empty, i.e. when we do not perceive.

The argument then continues in the opposite direction, making Empedocles contradict himself: “... on the other hand, he maintains that the pores are full”. From this Theophrastus infers that in such a condition we would always perceive (which of course we do not). This conclusion – a *reductio ad absurdum*– although possible, was obviously not part of the original theory.⁶⁵ In this particular case Theophrastus drives the opponent on the horns of a dilemma: either there is void or there is not, but one cannot have it both ways.⁶⁶ The conclusions extracted from the theory are grave if not fatal, stating that we either perceive always or never. A more extreme result can hardly be imagined.⁶⁷

⁶³ Theophrastus speaks of ποροί (*DS* 7, 13) but this is probably not Empedocles’ own term: see e.g. fr. 100.2 DK (σαρκῶν σύριγγες) and cf. Guthrie II (1965) 150, 231f.

⁶⁴ Note the future verb forms διοίσει, αἰσθήσεται.

⁶⁵ Theophrastus could be following Aristotle’s cue here. At *GC* 315a3 the charge of self-contradiction is also found (Ἐμπεδοκλῆς μὲν οὖν ἔοικεν ἐναντία λέγειν καὶ πρὸς τὰ φαινόμενα καὶ πρὸς αὐτὸν αὐτός) and at 325b5 ff. an almost identical objection is stated against Empedocles concerning touching and empty space: Σχεδὸν δὲ καὶ Ἐμπεδοκλεῖ ἀναγκαῖον λέγειν ... εἶναι γὰρ ἅττα στερεά, ἀδιαίρετα δέ, εἰ μὴ πάντη πόροι συνεχεῖς εἰσίν. Τοῦτο δ’ ἀδύνατον· οὐθὲν γὰρ ἔσται ἕτερον στερεὸν παρὰ τοὺς πόρους, ἀλλὰ πᾶν κενόν. Ἀνάγκη ἄρα τὰ μὲν ἀπτόμενα [cf. *DS* 7] εἶναι ἀδιαίρετα, τὰ δὲ μεταξὺ αὐτῶν κενά, οὓς ἐκεῖνος λέγει πόρους. Aristotle is also concerned with evaluating whether certain theses are consistent (325b15-17). See also Ch. 2, p. 49.

⁶⁶ Note the similarity to Aristotle, *GC* A 8.326b10-16 and Alexander *De an. liber Mant.* (*CAG* suppl. 2.1) 129.24 ff. Βrunς εἰ γὰρ λέγοιεν πόρους ἔχειν ταῦτα, ἥτοι κενούς καὶ ἔσται τι κενὸν ἀφωρισμένον ἢ πλήρεις ἀέρος ἢ τινος ἄλλου σώματος κτλ.

⁶⁷ On the *reductio ad absurdum* in dialectic see Ch. 2 and Ch. 6 (cf. index).

(3) Further questions on the problem of “fitting” follow in *DS* 14. According to Theophrastus there remains a problem with proportion. He points out that Empedocles seems to presuppose that particles different in *kind* might fit, i.e. have the right *size*? The paraphrase states that the eyes can become “dim by a clogging of the passages now by fire particles and now water particles”. In other words, disproportionate mixture can occur. This produces the problem how different sense objects can all have particles which fit into the appropriate pores, but still give rise to different sensations.⁶⁸ Empedocles will have to explain how dissimilar particles can cause obstruction, the problem being that fitting into the pores — the only way sensation is caused — is confined to effluences which are proportionate.

(b) Theophrastus continues by remarking that it is problematic how and where disproportionate particles which may fill the pores are disposed of. The obstruction by certain particles is regarded as permanent, and Theophrastus insists that “some sort of change (μεταβολή) must be accounted for”.⁶⁹ Here too the argument goes beyond the original scope and interests of Empedocles, who apparently did not deal with the detail of undoing the obstruction. There is no evidence that Aristotle dealt with this point (cf. n. 56).

(4) Regarding “fitting into” Theophrastus makes an attempt at understanding Empedocles’ use of the verb (*DS* 15-16). Empedocles describes knowledge on the basis of similarity and touch in terms of “fitting, being proportionate”; Theophrastus analyses the cause stated and the terminology in which it is given. This analysis shows that Empedocles employs two factors in his explanation (like-by-like and contact), but does not explain how they work together. Theophrastus also shows that one of the two would suffice:

(a) “If the similar would not fit, but merely touch, sensation from whatever source would be likely to occur, even when small particles would touch large ones” (*DS* 15). It is hard to see whether the definition for fitting is Theophrastus’ or Empedocles’. There is a shift from “being proportionate (i.e. matching exactly)” to “touching” (compare *DS* 7 (οὐχ) ἀπτόμενα). In *DS* 10 we find ἄρμωσθέντα in a quotation

⁶⁸ Theophrastus seems to think that a certain amount (cluster?) of fire particles can also block water pores which are too wide for an individual fire particle. Perhaps the parallel from a systematic context is Priscian, *Metaphr.* 1.34 (fr. 277B *FHSG*).

⁶⁹ As a technical term μεταβολή is probably Peripatetic, see Ch. 3.1.

echoing Empedocles' own words (DK 31B107); in the two lines quoted the form ἄρμοσθέντα seems to be used in a more general sense, as it refers to the elements being "fitted together" to form compounds. Theophrastus seems to be exploiting the stronger sense of ἀρμόττειν ("to fit exactly") against the weaker sense ("to pass through [and graze?]").⁷⁰ By speaking of 'touching' instead of 'matching' he has prepared the way for a further *reductio*. If Empedocles means 'touching', sensation might occur when particles of different size touch each other — placing, as it were, sensation outside the subject.

(b) "In general (ὅλως, *DS* 15) the like is excluded, for Empedocles seems to think that commensurability is enough" (Theophrastus explains this generalized statement next). For Empedocles says "that substances fail to perceive one another because their passages are not commensurate". In addition to this attack on Empedocles' basic principle Theophrastus objects that Empedocles "did not make it clear as well" (οὐδὲν ἔτι προσαφώρισεν) whether the emanation is the like or unlike. Theophrastus concludes that (1) perception does not depend on likeness (which amounts to a rejection of the basic principle in *DS* 1) or that (2) not-seeing is not due to lack of proportion, *ergo* all sense organs have the same nature. The gist of the objection seems to be that the supposed opposite of perceiving (*viz.* not perceiving) is not really contrary, since the first is defined through proportion and the second by similarity.

(5) Theophrastus proceeds to discuss pleasure and pain. Empedocles, he argues, is not consistent (οὐδὲ τὴν ἡδονὴν καὶ λύπην ὁμολογουμένως ἀποδίδωσιν, *DS* 16), for he explains pleasure by similarity, and pain by contrast (calling them "enemies", ἐχθρά).⁷¹ Theophrastus implies that Empedocles (again) is not keeping to his basic principle (like-by-like).⁷²

⁷⁰ Cf. above n. 25 (see also next point)

⁷¹ One may ask whether Theophrastus reproduces or echoes Empedoclean wording here: see e.g. 31A29 DK ἐχθραὶ δὲ καὶ φιλίας (=Plato, *Soph.* 242d), and esp. B22 line 6-7 (= Simpl. *In phys.* 161.4-5) ἐχθρά (δ' ὅ) πλεῖστον ἀπ' ἀλλήλων κτλ. said of the elements which become hostile to each other through the influence of Strife (Νεῖκος).

⁷² Stratton (n.50) rightly points out that there is no mention of pleasure and pain in Theophrastus' *report*.

(6) If cognates (συγγενῆ, *DS* 16) give most pleasure by contact, as Theophrastus believes Empedocles is contending, this would entail that "things fused together"⁷³ would cause most pleasure, and in general keenest perception. Theophrastus is then quick to point out that the intensity of certain sensations can be hurtful and hardly pleasurable, even when the fusion (i.e. contact) may be most complete. Perhaps his way of interpreting certain terms is unfair.⁷⁴ His counter-example to Empedocles' contention —that we sometimes feel pain when perceiving— is a matter of experience. Here the facts are used to point to an exception, i.e. to falsify the general validity of a claim.

The problems of a general nature have now been discussed (*DS* 12-16). Theophrastus also has several queries regarding the individual senses (κατὰ μέρος, *DS* 17). Here Peripatetic notions start to creep in.

(7) Empedocles' assumption that we see by means of the colours white and black does not explain how we recognize grey, or mixed colours in general. The problem is real in that it should be asked how four elements can give rise to so many different colours. The question illustrates the underlying Peripatetic scheme of opposites (pure colours) with intermediaries or mixed colours (e.g. *Metaph.* 1057b13-16 οἷον ὅσα χρώματα τοῦ λευκοῦ καὶ μέλανός ἐστι μεταξύ, ταῦτα δεῖ ἔκ τε τοῦ γένους λέγεσθαι, ἔστι δὲ γένος τὸ χρῶμα). It is unlikely that Empedocles dealt with the question in this way.⁷⁵ A full explanation of all the shades of colour is an element of the Peripatetic theory.⁷⁶ The scheme also illustrates how the argument makes restraint more difficult. Although the argumentative procedures can be evaluated from a *formal* point of view, they *philosophically* produce a clash of ideas and thereby the possibility of refutation.

(8) Against Empedocles' definition of the intensity and capacity of the senses (*DS* 18) Theophrastus has two objections. Empedocles' view on the power to see is turned upside down; (a) if "weak fire is

⁷³ τὰ σύμφυτα, see Taylor *apud* Stratton, 171 f.

⁷⁴ But see *Top.* B 2.110b8 ff. on terms with a variety of meaning, where e.g. it is recommended to find a better known term (B 4.111a8-13) or the 'original' meaning (B 6.112a32-38).

⁷⁵ See Aët. *Plac.* I 13; Ar. *De sensu* 437b11-438a4 and Beare 21-23.

⁷⁶ Found in the *De coloribus*, although there it is more mechanical. See e.g. *De color.* ch. 2, 792a4 ff. with useful remarks by Gottschalk (1964) 64f.

quenched by strong fire” (e.g. we have difficulty looking into the sun and in general into pure fire; cf. *De igne* 1) then “animals whose natural light is lacking(!) in their eyes would see less during the day”. (b) When Empedocles states that what is similar augments⁷⁷ and that the unlike would obstruct and destroy, we would, without all the shades in between, see white things better in day-time, black ones by night. Since most animals see better during the day this is untenable.

(9) A shorthand argument follows (*DS* 19), continuing (8). “If there is a blend from equal portions (ideal mixture), every part will of necessity be supplemented alternately — i.e. light during the day, darkness during the night; therefore if the predominant part prevents the other from seeing, the condition of all <animals> would be in some way alike”. Stratton remarks that in this way the “mixture from equal portions (of the elements)” (ἡ κράσις ἐξ ἴσων) would be less exclusive among all possible mixtures than it originally seemed to be. Theophrastus is obviously equating *mixture* and *proportion*. His point seems to be that Empedocles cannot speak of a different capacity to see for animals possessing or lacking light because he maintains that like is boosted by like, which means that both groups would see white things better during the day.⁷⁸ Then he continues: “but vision is quite difficult to analyse (διελεῖν). For the like is indefinite (ἀόριστον)”.⁷⁹

(10) The question that follows — how the other senses can perceive by means of the like — suggests that these are even more difficult to analyse (*DS* 19). Theophrastus uses a material and a formal point: “We do not perceive sound through sound etc. but rather so to speak through opposites”. Theophrastus here plumps for the contrast principle; his thesis is that one should offer the senses unaffected to

⁷⁷ Note συναύξει, καθάπερ φησί (*DG* 504.18) and compare a few lines down συναύξεσθαι (*DG* 504.24). The reference (καθάπερ φησί, *DS* 16 and 18) is not necessarily to the original words.

⁷⁸ Aristotle defines *krasis* as a species of *mixis* (*Top.* 122b26-31, 123a4) and speaks of *mixis* when he discusses Empedocles’ views on the soul as composed out of the elements (*De an.* 408a14-28).

⁷⁹ By declaring that the like is “indefinite”, Theophrastus must mean that it does not admit of clear demarcation or definition. For ἀόριστος see Arist. *Top.* 142a19-23 (as opposed to what is “permanent and defined”, τὸ μένον καὶ τὸ ὀρισμένον) and *Phys.* 207a30 (as equivalent to “the unknown and indefinite, both impossible to comprehend and define”, ἄτοπον δὲ καὶ ἀδύνατον τὸ ἄγνωστον καὶ ἀόριστον περιέχειν καὶ ὀρίζειν).

these objects, because the sense organ may become saturated and numbed.⁸⁰ This would increase the more they become filled with like things — unless a definitional feature (διορισμός) is added.⁸¹ Clearly, in points of detail Peripatetic presuppositions enter the argument.

In the objections that follow (*DS* 20-24) Theophrastus selectively deals with individual points of the Empedoclean theory, viz. effluences, hearing, smelling, and thinking.

(11) (a) Theophrastus believes that some of Empedocles' remarks on effluences are to some extent acceptable (*DS* 20, ἔστι πως ὑπολαμβάνειν, "could serve as a basis of argument"), but he is not persuaded that effluences will provide a *general* explanation. Because touch and taste are the more direct senses — taste being virtually a species of touch —, "it is not easy to understand how we will discriminate by the effluence or the rough and smooth as fitting into the passages".⁸²

(b) When we take effluence as loss of matter — which is what Empedocles uses as the most common proof⁸³ according to Theophrastus — and if smells occur by effluence, then the stronger the odour, the greater the decay. Theophrastus holds that in fact the contrary is the case; things that have a strong smell are also the most stable ones. He points to plants as an example.⁸⁴

(c) An afterthought is added to the previous points: "it follows that during the reign of *Philia* there would be no perception at all (ὅλως) or at least less, because under such circumstances recombination would be taking place, not effluence".

⁸⁰ The phrase "sound not heard by sound" etc. represents Theophrastus' own opinion (Prisc. *Metaphr.* 277B; cf. *DS* 19 = *DG* 504.27-28). The idea is Aristotelian, see Ch. 3.1.

⁸¹ On "adding (terms)" cf. *Top.* 118b10 ff., *Soph. El.* 177a25, 181a31, *EN* 1224b6.

⁸² We may note that Theophrastus corroborates this thought with a generally accepted view, viz. "it is generally held (δοκεῖ) that among the elements only fire has effluences, not the others". For the peculiar position of fire among the elements cf. *De igne* 1-2.

⁸³ σημείον, cf. Stratton 174 and below n. 141.

⁸⁴ I have found no good parallel in Theophrastus' works for the view expressed here. The closest passages I could find are these: he speaks of perfumes from flowers being weak (*De odor.* 39), or being ruined by the hot season, location or the sun (*ibid.* § 40); at the same time he states (*ibid.* § 39 and § 43) that perfumes made from roots and other (solid) parts last longer, "their odour being fuller, stronger and more substantial (σωματωδεστέρα)". Compare also §§ 43-44; *CP* 6.14.9 (the rose at 6.14.11).

This is an interesting argument in which the meaning of one word (*ἀπορρεῖν*) is stretched and another word is used in two senses. Theophrastus here switches from the concrete level of the mechanism of effluence as such (objection 11a,b) to the more general level of the cosmic process as described in Empedocles' theory. This establishes a connection which Empedocles himself probably did not make. This time we have no evidence that the approach originated in Aristotle, whose references to Love and Strife are short quotes for illustration⁸⁵ and the illustrative effect of the comparisons is clear and not forced. Not so in the *DS*. The phases of Love and Strife are taken by Theophrastus as laws of universal application, similar to processes of (re)composition and disintegration⁸⁶ and he opposes one of these to the process of effluence. There is of course only a semantic link between these notions, not a factual one. The move is a legitimate 'dialectical' inference from an ambiguity in Empedocles' language and illustrates Theophrastus' eagerness to refute wherever and whenever possible.⁸⁷

(12) Regarding Empedocles' explanation of hearing (*DS* 21) two problems are indicated: 1. the stimulus is not enough to explain the process as a whole; 2. a *regressus* is involved. Theophrastus' point is that Empedocles describes hearing as "the external sound being 'heard' by the internal sound", which leaves open "by what (*διὰ τί*) the latter is heard".⁸⁸

(13) In the case of smelling Theophrastus finds further reason for queries. Empedocles' account of smelling does not give a *common* cause, "for some animals smell without having to breathe" (*DS* 21-22)⁸⁹; respiration is not related to olfactory powers;⁹⁰ light bodies do not

⁸⁵ See *De an.* 408a22, on the proportion of the elements in the soul, Love produces the right proportion; 430a30, the notion of combining things which are separate in analogy with judgment.

⁸⁶ See Kirk-Raven-Schofield, 343 (nos. 455-56). Burnet (1975) 235n. refers to *Ar. GC B* 6.334a6, *De caelo* Γ 2.301a14. One may add *Metaph.* B, 1001a14f.

⁸⁷ On *Φιλία* as one of the discrepancies between report and critique see below p. 168.

⁸⁸ On the *διὰ τί* question cf. Ch. 3.1. The reference to Empedocles' use of a simile (*ὥσπερ κώδων*) is an interesting, but problematic detail. On *κώδων/ῥέζων* see my forthcoming paper 'Empedocles' Hearing Aid? A Note on DK 31B99'.

⁸⁹ Cf. *Ar. De sensu* 444b7-14, *De an.* 421b17-19.

⁹⁰ Arguments *con*: [i] during sickness or obstruction respiration has no effect; [ii] people who suffered an injury have no sensation (of smell) at all, *DS* 22; [iii] respiration, only accidentally (*κατὰ συμβεβηκός*) linked to smelling, is not its real

affect most strongly the sense of smell, because there must in addition exist some odour in them.

The objection Theophrastus adds — air and fire are the lightest substances, but produce no sensation of smell in us — can hardly be Theophrastus' own view, since (1) Theophrastus himself holds that we cannot perceive simple substances (*De odor.* 1), but only compounds (*CP* 6.1.1), and (2) in the case of rose perfume, which is able to destroy the odour of other substances (*De odor.* 45), he explains this special power by its lightness (κουφότητα).⁹¹ This makes this point almost a sophistic manoeuvre. By emphasizing the aspect of lightness the argument turns in the opposite direction (light body penetrates better and gives strong effect, by blocking out other smells).

(14) Near the end of the critique there are some remarks on thinking (*DS* 23f.). Empedocles regarded thinking as a physical process occurring in the blood around the heart (DK 31B105, 106). That he equated perception and thinking was already Aristotle's conclusion.⁹²

Three restrictions are brought forward against this view: (a) the assumption that all animals have blood allows for exceptions (*ergo*: it is over-generalized); (b) there is no relation between the blood and the senses, for animals which do have blood are most deficient of it near the sense-organs; (c) hair and bone, being composed out of all the elements, would be able to think.⁹³ The broad implication in the last point seems true for Empedocles; it appears that he held that all that exists is endowed with thought (see DK 31B103, 110). Theophrastus concentrates on the *stated* requirements of *composition* and the presence

cause (cf. Arist. *HA* 492b5-11).

⁹¹ Αἴτιον δ' ὅτι λεπτότατον ὄν καὶ προσφιλὲς τῇ αἰσθήσει διὰ τὴν κουφότητα μάλιστα διικνεῖται καὶ συμπληροῖ τοὺς πόρους, ὥσθ' ἡ αἴσθησις κατειλημμένη καὶ πλήρης οὐσα κρίνειν ἀδυνατεῖ. "The reason is that, being very delicate and acceptable to the sense of smell, by reason of its lightness it penetrates as no other can and fills up the passages of the sense, so that being entirely taken up and filled with it, it is unable to judge of others" (tr. Einarson-Link). On the reasons for this (which Theophrastus discusses next) see also above nn. 68, 84.

⁹² Arist. *Metaph.* 1009b17 f.; cf. Cherniss (1935) 306 ff.

⁹³ These two examples Aristotle regarded as typical homoeomerous substances (cf. *De an.* 408a15f., *PA* 653b19 ff. and Beare 199 n.). Empedocles made them consist of certain ratios of the elements: e.g. bones are described as consisting of four parts of fire ('Hephaistos'), two parts of earth, one air, one water ('Nestis'). See B96 DK = Simplicius *In Phys.* 300.16-24; cf. B6. For a different view on the attribution of elements see now Kingsley (1995) 15 ff., with critical remarks by A. Sheppard, *CIR* 56 (1996) 269-71.

of *all* the elements, but (conveniently) leaves out the one of “the *best* mixture” (*DS* 10-11⁹⁴).

(d) Theophrastus continues this line of thought by ridiculing the whole idea. His general outlook on the problem produces a sweeping and paradoxical conclusion regarding these three phenomena, which in his eyes require simultaneous and similar treatment⁹⁵:

to think, to perceive, and to enjoy would be identical processes; and contrariwise, to suffer pain and to be ignorant <would be identical processes>. Accordingly (ὥσθ' ἄμα), pain ought to accompany ignorance, and pleasure the act of thinking.

Despite the joke of this *reductio ad ridiculum* — perhaps to amuse his audience — he wants to emphasize what a correct treatment of the subject entails. Pleasure and pain are treated by Aristotle in the context of both his physical and his ethical theory. His treatment includes memory and expectation which, being accompanied by sensation, may be accompanied by pleasure.⁹⁶

(15) Finally, there is a minor point on the abilities of certain functions of the body (*DS* 24). Theophrastus accuses Empedocles of having interpreted a means as a cause. The mixture (σύγκρασις) of the blood, he argues, can hardly be related to the functioning of the parts of the body. This would entail that one regard the tongue as the *cause* (αἰτία) of speaking instead of taking it as the *means* (ὄργανον) of speaking; a better cause would be its (outward) *form* (μορφή), since “mixture is not related to understanding”.⁹⁷ The influence of form can be seen in other living beings as well (οὕτως γὰρ ἔχει καὶ ἐπὶ τῶν ἄλλων ζώων). The objection is clearly based on considerations taken from Aristotle.

After this listing of criticisms two general questions remain. They concern the order and aim of Theophrastus' objections.

⁹⁴ On partial statements cf. *Top.* (above n.63), *De caelo* 309a12-18. (One is reminded of the parody of *physiologoi* in Plato, *Phd.* 98-99.)

⁹⁵ For Aristotle's treatment of perception and thinking alongside pleasure and pain see Beare 296f., and Ch. 3, n.24.

⁹⁶ See Ch. 3, p. 78.

⁹⁷ *DS* 24, διὸ καὶ μάλλον ἂν τις ἀποδοίη τῇ μορφῇ τὴν αἰτίαν ἢ τῇ κράσει τοῦ αἵματος, ἢ χωρὶς διανοίας ἐστίν·. Mention of the ‘parts’ and ‘hand’ in the sentence before the one just quoted may allude to Ar. *PA B* 1-2 where the instrumental role of uniform (*homoeomerous*) parts is discussed such as ‘the hand or the face’ (cf. *Meteo.* 388a13-20).

(i) Does the considerable number of objections and the order in which they are stated point to a specific interest in Empedocles' theory? As was said before when dealing with the selection and presentation of tenets (Ch. 2.2), the amount of material is remarkable and probably reflects (a) the copious source material at Theophrastus' disposal (esp. on vision, which is so prominent in Empedocles' theory) and (b) his interest in the views of Empedocles. The section on Empedocles' theory can be divided into three parts: general points (*DS* 1-7), points on specific senses (8-10), details (11-15). This progression from general to specific points is an approach which we find more often in Aristotle and Theophrastus.⁹⁸

(ii) How strong is the influence of the dialectical technique? Reviewing the objections we can observe that the first argument (p. 156f.) presupposes an obvious truth underlying Aristotle's philosophy, viz. that we should distinguish between animate and inanimate beings (as we have seen in Ch. 3.2 an important topic and as we will see a recurrent one). The arguments (2)-(10) all deal with the problems which, according to Theophrastus, arise from the assertion that perception is basically a process of "(effluences) fitting into pores". The objections are mainly aimed against the central mechanics of Empedocles' theory, thus making this a focal point in the attacks against this doctrine of perception. It concerns the term *enharmottein*, the relation between effluences and *poroi*, and the way in which these are supposed to perform their sensory role. This becomes clear from the order and interrelations of the first series of objections.⁹⁹ The objections concern the (internal) consistency of the opponent's theses, and more specifically insofar as these are *explicitly stated*. As will become clear in the course of our analysis, the approach of concentrating on a 'focal point' is found throughout Theophrastus' discussions of the Presocratics.

We do not find many of Empedocles' own words, since Theophrastus paraphrases most of his tenets.¹⁰⁰ Yet it is important to note

⁹⁸ See Ch. 3, n.8. Cf. Strato's arguments against Plato, *Phaedo* (Frr. 122-127 Wehrli).

⁹⁹ There is evidence that Theophrastus himself made use of a theory of *poroi*. This is argued by Steinmetz (1964) 170-171 (but denied by Coutant (1971) xvii-xviii, see his p. xiv and note). It is based on the occurrence of certain terms in Theophrastus' meteorology (cf. Daiber 1992), *De igne* 45 and *De Od.* 45 (above n.84). Cf. Gottschalk (1968) 73f. and contrast Aristotle, *De sensu* 5.

¹⁰⁰ A few single words are found (*DS* 9 κώδων, σάρκινον ὄζον, ?14 ἀρμόττειν, ?20 Φιλία) and some quotes in verse (*DS* 10, 16 and 22) cf. above n.62). I note that Theophrastus' paraphrase and quotation in *DS* 10 (διαριθμησάμενος γὰρ ὡς ἕκαστον

that the intrusion of Peripatetic notions and concepts is (practically) absent in the reports, and only gradually increases in the criticisms. This suggests that Theophrastus' *reports* are quite close to genuine doctrine. Given the total estimate of Empedocles' poem on physics (approx. 3000 lines), the material in the *DS* must represent a significant part of his views on sensation. That we cannot assess the full length of his source was also indicated by the fact that the evaluation does not run parallel to the report. For instance, in his critique Theophrastus rather unexpectedly brings in Love (Φιλία, *DS* 20) one of the two main cosmological forces as the period during which only recomposition takes place; he also extends the mechanism of the passing through the pores (*DS* 14), while neither point is mentioned in the report (*DS* 7-12). It seems impossible to say with certainty whether these additional points came from other notes or that they were just things Theophrastus throws in from memory. Be that as it may, it clearly shows that he did not work exclusively from the abbreviated reports which precede his criticisms.

Moreover, we find not only the Aristotelian doctrine of perception directing the criticisms, but also the argumentative tactics of ferreting out inconsistencies. The main strategy in examining the Empedoclean theory is to spell out its implications, whereas claims for universal applicability are undermined by pointing to exceptions.¹⁰¹ Often the arguments are cumulative. For instance, Theophrastus' queries on vision (the different *functions* of fire in the eye, the exact *meaning* of ἐναρμόττειν, the question whether the pores or passages are empty or full) support each other. But the appeal to empirical arguments (marked e.g. by the formula νῦν δέ) is prominent too. Accordingly Theophrastus' refutation of Empedocles' views does not always entail opposition. Since many of the objections concern logical consistency and consistency with the facts, they cannot all be used to extract information about the critic's own views directly.¹⁰²

ἐκάστω γνωρίζομεν ἐπὶ τέλει προσέθηκεν ὡς κτλ.) must represent part of Empedocles' poem which came *after* the quotation found in Ar. *De an.* 404b8 ff. (γαίη μὲν γὰρ γαίαν κτλ.). This is not the case in DK where they are B107 and 109 resp. The order, which is implicit in Mansfeld (1986b) vol. II, 135, explicit in Barnes (1982) 484, should be B109-107.

¹⁰¹ Compare A91 DK (Aristotle); B95 (Simpl.); [Philop.] *In gen. an.* 217.13–25 and Beare, 21 with note.

¹⁰² I have discussed the problem of authorial commitment in more detail in Baltussen (1998). The difficulty is evidenced by linguistic elements e.g. future verb forms (above n. 64), ὥστε introducing consequences, expressions of necessity (δεῖ,

What we may learn from this first survey of the most extensive evaluation of an earlier doctrine in the *DS* is that a serious interpretative effort is made. In general, it is not the basic principle (like-by-like) that plays a central role, although Theophrastus does not forget to point to a major flaw in Empedocles' use of it (above no. 4.b). Further, we have seen that his criteria, which enable him to weaken the opponent's position, are related to both form and content of the arguments. The Aristotelian positions, obviously at the background of many objections, become more and more tangible during the refutation. Theophrastus' final judgement sums up the 'merits' of Empedocles' theory: "Empedocles seems to have been quite mistaken on many points".¹⁰³

3.2. *The Protagonist of the 'Contrast Party': Anaxagoras*

The report on Anaxagoras (*DS* 27-30) is much shorter than the critique (31-37). The following analysis of the objections and their specific target will show that this ratio is of some significance for our understanding of Theophrastus' judgement of Anaxagoras.

The objections are focused on two aspects of the general principle, viz. the idea that perception is by contrast or opposites and that it is accompanied by distress. In *DS* 31-33 these two aspects are taken together. "It is not in accordance with the facts that every act of perception is accompanied by distress nor is it what one might expect",¹⁰⁴ and twice thinking is compared with perceiving. It should be noted that Theophrastus seems to stress the consistent application of the principle at different levels. This is at least suggested by the terminology with which he introduces each theme in the report.¹⁰⁵ We have seen a similar approach in Theophrastus' own treatment of perception (Ch. 3.1) where he emphasizes that the overall explanation should apply as widely as possible. This condition was also implicit in his criticism of Empedocles.¹⁰⁶

ἀνάγκη), and the rather frequent use of the *irrealis*. As we have noted (Ch. 3, n. 16) Empedocles had a reputation for being consistent; compare *Metaph.* B, 1000a25 ὄνπερ οἰηθείη λέγειν ἄν τις μάλιστα ὁμολογουμένως αὐτῷ, Ἐμπεδοκλῆς κτλ. and contrast *DS* 13 (n. 65 and text thereto).

¹⁰³ Above I noted the vocabulary. Cf. for a similar judgement *CP* 1.22.2.

¹⁰⁴ *DS* 31, τὸ δὲ μετὰ λύπης ἄπασαν εἶναι [ψεῦδος] οὐτ' ἐκ τῆς χρήσεως ὁμολογεῖται, τὰ μὲν (γὰρ) μεθ' ἡδονῆς τὰ δὲ πλείστα ἄνευ λύπης ἐστίν, οὐτ' ἐκ τῶν εὐλόγων.

¹⁰⁵ See τὸν αὐτὸν δὲ τρόπον... (*DS* 28), ὡσαύτως... (28), ὁμοίως... (30), ἐπὶ τῆς ὁσφρήσεως ὁμοίως...(30).

¹⁰⁶ See above n. 58.

The following objections are formulated against Anaxagoras:

(1) The first point (*DS* 31; cf. *DS* 1) concerns the basic principle. He remarks that it is reasonable (ἔχει τινὰ λόγον) to give contrast a role in the perceptive process, “for it is generally held (δοκεῖ) that alteration is not through similars but by opposites”. Theophrastus here focuses on the process, using the Peripatetic notion of alteration (ἀλλοιώσις). As a species of movement it has a wide range of meanings. Here it is used for qualitative change (e.g. at the level of the elements or in the sense of a completion).¹⁰⁷ The process of sensation, as we have noticed, is primarily one of *actual* contrast and *potential* likeness. Aristotle had managed to incorporate both basic mechanisms into his own explanation of the process (e.g. *GC A* 7-8; cf. Theophr. *CP* 6.7.3).

But Theophrastus adds some doubts as to the exact formulation of the process by opposites:

(a) while asking whether perception is an alteration (ἀλλοιώσις) and whether an opposite discerns its opposite (εἴ τε τὸ ἐναντίον τοῦ ἐναντίου κριτικόν) he states that Anaxagoras’ view lacks persuasion (cf. *DS* 1 πῖθανον). (b) The second element may refer to the fact that the Peripatetics conceive of perception as a formal transition from opposite quality to opposite quality, but in which a certain assimilation (becoming like) occurs.¹⁰⁸ Anaxagoras seems to state that perception is through opposites; Theophrastus has misgivings about the precision in his formulation of this position.

(2) The second critical note concerns again a claim of universality; according to the report (*DS* 29; cf. 17) Anaxagoras held that *all* perceptive actions are accompanied by pain (distress, μετὰ λύπης). Here concrete evidence is brought in by Theophrastus to show that the opposite often is true. But he also argues that such a claim is counter-intuitive (31, οὐτ’ ἐκ τῶν εὐλόγων) since perception is in agreement with nature, which means that it works without violence or pain. Here a more general consideration is used to counter Anaxagoras’ claim.¹⁰⁹ In other words, the *paradoxon* that pain is natural is countered by the *endoxon* that pleasure is according to nature.

¹⁰⁷ On ἀλλοιώσις see Ch. 3.1 and Solmsen (1960) 175 ff. In Aristotle’s *Topics* the genus of change is present in several examples (e.g. 122a25 ff.). On this issue in relation to the Presocratics see the paper by W. Heidel (1906) and next n.

¹⁰⁸ As we saw this process of becoming like had its difficulties for Theophrastus, since he seems to have questioned the clarity of the formulation of Aristotle (see the testimony from Priscian discussed above Ch. 3, n. 61).

¹⁰⁹ The phrase τῶν εὐλόγων (plural) is also found in *DS* 48.

(3) The κατὰ φύσιν argument also determines the next objection (*DS* 33); Anaxagoras, Theophrastus says, treats unnaturally what is actually according to nature, since excess is not the natural state of affairs.¹¹⁰ Theophrastus posits the need for a certain correspondence (*symmetria*) and mixture (*krasis*) for perception to arise (*DS* 32, cf. 35) instead of assuming — as Anaxagoras does — that it occurs through excessive stimuli.¹¹¹ It is clear and generally agreed (φανερὸν καὶ ὁμολογούμενον) that we do experience pain or pleasure during acts of perception. But this does not mean that either of these is more connected to it. In fact, one may even assume, Theophrastus adds, that neither is.¹¹² The argument as a whole turns on the antithesis “natural” (*kata physin*) vs. “unnatural” (*para physin*), and on the criticism that the stimulus is not clearly distinguished from the feelings it evokes (as with Empedocles, above nos. 5-6). Theophrastus adds two further remarks to justify his doubts; first that “it would be impossible to discern if understanding were to be accompanied constantly by pain or pleasure”.¹¹³ And secondly, the broader evaluative remark that “he transfers it onto the whole of perception while taking a rather narrow starting-point”.

These three points, then, have one common focus, viz. the central thesis of opposed factors as the basic principle of perception.

(4) In the next section (*DS* 33) Theophrastus goes to some length to refute the idea of a direct relation between the size of animals and the capacities of their sense organs. In fact, his own view on the matter seems quite opposite to that of Anaxagoras. This is a good example of a discussion in which the opposite thesis wins the argument, a technique derived directly from the antithetical approach in dialectical school practice.

(a) First he examines a problem which results from the statement “that larger animals have better sensation and in general (ἀπλῶς) that

¹¹⁰ A similar argument against Empedocles is found at Arist., *GC* B 6.333b22 ff. (DK 31 B53-4) concerning forced and natural movements of the elements.

¹¹¹ Compare *DS* 41 (πρὸς τὴν κρᾶσιν), *DS* 46, and *DS* 58 (Theophrastus here adds that this squares well with the idea of Democritus that the soul is a body — ὅπερ ἴσως αὐτῷ καὶ κατὰ λόγον ἐστὶ σῶμα ποιοῦντι τὴν ψυχὴν).

¹¹² On excess see Ch. 3.1. I note that the analogy between knowledge and sense perception (*DS* 33) appears rather suddenly. It may be based on a more complicated argument such as we find in *De an.* B 5.417b22 (referred to by Diels, *DG ad loc.*). Here knowledge which is of universals is opposed to sense perception which is of particulars. Cf. Taylor *apud* Stratton n. 98.

¹¹³ For the parallel perception-understanding, cf. Arist. *De an.* Γ 4.429a14 ff.

perception is related to the size of the sense organs". He asks "whether the smaller animals or the larger have better perception. For one would think that more acute sense organs would miss fewer of the smaller things, and also it is not unreasonable (*ouk alogon*) that what can perceive smaller things also detects large ones". It is of special importance here that the argument involves a generalisation of Anaxagoras' reasoning with the suggestion that he implied it himself.

(b) "Moreover, it is also generally held (*dokei*) regarding certain sense organs that smaller animals are better than larger, so that on account of this the perception of larger animals is worse".¹¹⁴ This point seems identical with the previous one, except for two details; in (b) an endoxic view is adduced without further argument according to which smaller animals have *better* perception. In (a) the view on size, which is important in perception, is turned into a comparative proposition, implying that when we are speaking of larger animals we should also consider smaller ones.

(5) The previous point (size related to sensitivity) is not yet abandoned (*DS* 35). For a moment Theophrastus assumes that the thesis Anaxagoras holds is acceptable,¹¹⁵ thus giving him the credit, we might say, of having used a valid inference from the main thesis; Theophrastus argues as it were from within the theory.¹¹⁶

(a) "If many things escape the attention of smaller animals, then the perceptive power of larger animals is superior. But all the same it would be legitimate (*eulogon*) to suppose that the same thing which holds for the whole temperament of the body is valid also for perception. We may ask, then, as was said, whether we should say this in this way".¹¹⁷

(b) "For within the same *genera* (*ἐν τοῖς ὁμοίοις γένεσιν*) we do not differentiate according to size, but rather according to disposition and blending (*διάθεσίς τε καὶ κρᾶσις*, *DS* 35). Regarding the correspondence between the senses and their objects depending upon size, Anaxagoras seems to speak like Empedocles, who speaks of emanations 'fitting in' passages". Theophrastus first seems to refer to an existing method of division as a way of defining certain things in a loose

¹¹⁴ The scope of *δοκεῖ* is unclear.

¹¹⁵ "if ..., then it is also to be expected ..."; *εἰ δ' αὖ ... ἅμα δὲ καὶ εὐλογον κτλ.*

¹¹⁶ Cf. below on Democritus, no. 1.b, 4.a.

¹¹⁷ The *formulation* seems to be the central point of criticism here (*εἰ ἄρα καὶ δεῖ λέγειν οὕτως*); cf. Stratton, n.101.

sense.¹¹⁸ Apparently size is not a distinctive feature within one class of substances. Next, he compares Anaxagoras' idea of correspondence to Empedocles' ἐναρμόττειν, implying that both commit the same error.

We should compare this discussion (nos. 4 & 5) of the relation of size to sensitivity with a passage in *CP* 6.5.3. Theophrastus does not mention Anaxagoras by name, but when he refers to "some of the natural philosophers", it is clear from the wording that he actually means Empedocles and Anaxagoras¹¹⁹:

As for the statement that animals do not perceive the fragrances, the matter is not evident to us. Unless here too one should (*like some of the natural philosophers*) make the sense-passages responsible, because the fragrances fit them or do not fit them. This is why they divide (διαίρουσιν) the animals *by size*, and say that small animals perceive small perceptibles, whereas the larger animals perceive the larger better. But the division (διαίρεσιν) is inadequate and perhaps inappropriate as well, and *the perception is not to be found in the passages*; instead one would rather account for both the sensitivity and the non-sensitivity (and on this depends the pleasurable or painfulness of the sensation) by the relation of the perceptibles to the disposition (διάθεσιν) and the blending (κράσιν) of qualities of the percipient. (tr. E.-L., modified; my italics)

Theophrastus here too rejects the suggestion that sensitivity is related to size, but his judgement is motivated somewhat differently. In *CP* 6.5.3 he focuses on the use of a division by "some of the natural philosophers" which according to him is inadequate — they divide perception in animals by the criterion 'size' — and perhaps even inappropriate, "since we are dealing not with a quantity, but with a quality" (tr. E.-L.). Thus Anaxagoras is guilty of a mistake which Theophrastus analyzes in terms of the categories. Theophrastus in addition touches on the location of perception, which is "... not to be found in the passages". In *DS* 35 the importance of division and classification (*genera*) is also implied in the remark quoted above (5 (a)) where the most important factors are "the general state and temperament of the body". Obviously the attribution of 'division' to the Presocratics is

¹¹⁸ Here division is a means of organizing the material, as in Aristotle's applied dialectic.

¹¹⁹ Not noted in Stratton or Diels (the reference to *CP* 6.5.4 at *DG* 510.16 is irrelevant here). This passage may very well be the counterpart to *DS* 35 (*loc. cit.*) in a truly systematic context. It is also a further example of the regular comparison or combination of Empedocles and Anaxagoras. I quote the translation from Einarson-Link, Loeb 1990, vol. III, who *ad loc.* refer to *DS* in a footnote.

unhistorical and implies interpretation. Though the motivation is formulated differently (division vs. *genos*), the philosophical point is in both cases similar (disposition and temperament).¹²⁰

One could argue that these two passages provide a good example of how we should understand the relation between critical preparation (*DS*) and systematic elaboration (*CP*). The reason for the difference in motivation is perhaps the technical level of Theophrastus' analysis; in the first passage the mistake is exposed, in the second the systematic context determines the emphasis in the argument. Aristotle's remarks on the dialectical practice (*Top.* Θ 4; 8) with its advice to distinguish between levels for experienced debaters and trainees could provide further justification for such an approach.

(c) Theophrastus' next objection arises out of his search for peculiar points of doctrine (see also n. 179). The special difficulty¹²¹ he detects is that Anaxagoras holds that rarefied air is more odorous. This is in contrast to Anaxagoras' other contention that animals inhaling dense air have a keener sense of smell than those inhaling the subtle (air). The (apparent) contradiction is probably the result of combining two statements on different aspects of the same subject. We will never know whether Anaxagoras himself discussed these points together or in different contexts. But it is clear that the statement about rarefied air is made in view of the dispersion of air (the 'object'), whereas the second statement pertains to the concentration of smell in relation to the organ (the 'subject').

(6) The discussion of Anaxagoras' theory of sight comes next.¹²² "His doctrine of reflection contains an element which is one of common explanations of that problem: most people (οἱ πολλοί) assume that seeing is the occurrence of a visual image (or reflection) in the eyes". But Theophrastus immediately lists the flaws of such an assumption. Here an allusion is made, or so it seems, to the discussion in Aristotle's *De an.* of the so-called common sensibles (objects not peculiar to any of the sensory organs).¹²³ The evidence mentioned by Theophrastus

¹²⁰ We may note that the discussion contains references to *diaeresis* and to the categories of quantity and quality (on which see also Ch. 3, p. 87). For Anaxagoras cf. [Arist.] *Probl.* 903a8, 914b10 = 59A74, 69 DK (a parallel I hope to discuss elsewhere).

¹²¹ ἴδιον δυσχερές.

¹²² Cf. Beare 37-40.

¹²³ They are a good example of unexplained technical terms.

consists of stock examples also found in Aristotle.¹²⁴ It is significant that he continues to address the *polloi* (speaking against “them”, plural), presumably now including Anaxagoras among them.¹²⁵

The objections are (again) not elaborated and some refer to a more complicated argument (*DS* 36). He disagrees with Anaxagoras on the function of size. In *DS* 36 he points to three flaws in the theory of sight through a visual image in the eye (*emphasis*): first, what people endorsing this view overlook is the fact that “the size of the objects is incommensurate with that of the image; second, many contrasting objects can not be reflected at the same time; and third, motion, distance and size are visual objects but produce no image”.¹²⁶ The last point betrays Theophrastus' Aristotelian frame of mind, though he makes no explicit reference to Aristotle. Images of objects reflected in the eye are obviously no longer life-size.¹²⁷ As Theophrastus understands it, the reflection theory is too crude in that the impression is made directly onto the eye and thus neglects to explain the reduction in size of the reflected object.

It should be noted that this point does not occur in the report on Anaxagoras' theory of vision (*DS* 27). Theophrastus counters the views of the majority, but for some reason he must consider it an equally legitimate argument against Anaxagoras.

Next, he objects that “it is impossible for many contrasting objects to be reflected *at the same time*”. According to the report (*DS* 27) the theory stated that a reflection occurs in the pupil in something of different colour. Theophrastus' objection exploits the ‘blank spots’ in the theory and adds the aspect of time (simultaneity); he wants us to believe that in the way Anaxagoras describes it no more than one reflection can occur.¹²⁸

¹²⁴ The σκληρόφθαλμοι were a favourite (and no doubt standard) example of Aristotle (e.g. *De an.* 421a13, b28, 30; *HA*, 505b1, 6, 526a9, 537b12 etc.). On διάστημα in *DS* 54, see further below in the text.

¹²⁵ Cf. Ch. 2.3.

¹²⁶ *DS* 36, σχεδὸν γὰρ οἱ πολλοὶ τὸ ὄραν οὕτως ὑπολαμβάνουσι διὰ τὴν γινομένην ἐν τοῖς ὀφθαλμοῖς ἔμφασιν. τοῦτο δὲ οὐκέτι συνείδον ὥς οὔτε τὰ μεγέθη σύμμετρα τὰ ὀρώμενα τοῖς ἐμφαινομένοις οὔτε ἐμφαίνεσθαι πολλὰ ἅμα καὶ τάναντία δυνατόν, ἔτι δὲ κίνησις καὶ διάστημα καὶ μέγεθος ὁρατὰ μὲν, ἔμφασιν δὲ οὐ ποιοῦσιν.

¹²⁷ “they took no account of the fact that the size of the objects seen is incommensurate with the size of their reflection” (*DS* 36). The problem of size is now addressed within the theory of sight; it must have formed one of the great problems of ancient theories of vision. See Beare, 29, 39, 73, 225-26.

¹²⁸ This objection returns against Democritus as does the previous one, see 5.4.2 on *DS* 52 (n. 165 and text thereto). The point may be taken as objective criticism in

(c) This view on certain features of the objects (motion, distance and size) is interesting. Although obvious aspects of the process of vision, these features could constitute genuine Aristotelian doctrine (cf. *De an.* 418a10-20, 428b22-30 on the concepts of motion, distance and size, which belong to the common sensibles). Finally, two small points on reflection are added.¹²⁹

In conclusion, then, Theophrastus has listed a number of points against Anaxagoras' theory of sensation-with-pain and reflection, which explore the flaws in it. He has found an omission, impossible implications (ἀδύνατα: either impossible cases, or examples of over-generalisation), or pertinent exceptions to the theory. The force of the objections is not always self-evident, but they often prove to be ingenious when each point is examined more closely. The intrusion of Peripatetic notions seems more overt than with Empedocles.

(7) A review of Anaxagoras' statements on colours follows next (*DS* 37). A few general remarks are added to the criticisms.¹³⁰

(a) The first point is hardly fair towards Anaxagoras. When Theophrastus states that according to Anaxagoras "colours reflect in each other, and particularly the strong (bright) in the weak (dim)" he does not reproduce his own report accurately. At *DS* 27 he stated Anaxagoras' view as "seeing <occurs> by reflection in the pupil, but nothing is reflected in what is of like colour, but in what is of different colour". His inference (*DS* 37) that defining seeing by reflection entails that "each of the colours would be able to 'see', and more so the dark and in general weaker colours" fails to mention the pupil. It is a neat example of a *reductio ad absurdum* (*ridiculum*). The argument resembles the general objection about reflection (which could not be the only criterion for vision, above 6.c).

(b) "For this reason he makes vision of the same colour as the night and light the cause of the reflection. But, first, we see light itself without any reflection, and, second, black (?dark) objects lack light no less than white ones¹³¹; also we see in other cases that reflection is always

the sense that the point is generally known.

¹²⁹ One is the remark that "with some animals nothing at all is reflected, e.g. the 'hardeyed animals' (σκληροφθαλμοί) or those that live in the water". Again here exceptions to the general working of reflection are brought forward.

¹³⁰ See Beare, 39f. Stratton (n. 83)

¹³¹ Cf. Aristotle *De an.* 418b9-10 and *De sensu* 439a26-27. On black and white see *De sensu* 439b20- 440a12.

generated in that which is more bright and pure, as he himself says that the membranes of the eyes are fine and lustrous. Most people make sight itself consist of fire too (?), as if colours partake in this more".¹³²

These objections are, as in (a), a detailed elaboration of certain points which had already been stated in general. Note that the first and third point are *endoxic* facts of experience, whereas the second turns on Peripatetic doctrine (cf. *De an.* B 7).

At the end of *DS* 37 Theophrastus formulates his conclusion: "Anaxagoras then, as was said, digs up that common and antiquarian view. Except for his original contribution in the case of each sense and in particular regarding sight, viz. that size is perceived, he does not clarify the senses of a more material nature".¹³³ Thus Theophrastus marks Anaxagoras out for taking size, a concept important in Peripatetic doctrine, into account. It should be noted that one distinctive feature of Anaxagoras' doctrine is missing: Theophrastus does not mention the Mind (Νοῦς). For some reason he speaks for the first time of Anaxagoras' Mind in the section on Clidemus (*DS* 38), not in the section on Anaxagoras (*DS* 27-33).

In sum, the arguments brought against Anaxagoras have a mixed character when it comes to the verdict they express. Theophrastus sees some resemblance to the Peripatetic point of view on the principle of contrast, but finds it also necessary to correct its formulation and to check the scope Anaxagoras allows it to have. The predominant focus of the criticisms is the principle claimed by Anaxagoras. The critique is again constructed to detect deficiencies by going over all the implications.

Theophrastus' treatment of Anaxagoras is aggressive and may represent an implied value-judgement. The intrusion of Peripatetic notions occurs early in the criticisms. When the reports and relevant passages which contain criticisms are placed side by side, the general structure of the criticisms shows Theophrastus' selectivity; the progression of the argumentation sticks to the main points (contrast principle 27~31, pain theory 29~31-33) and elaborates only on two further details (colour

¹³² It is uncertain what we should read in the last clause of this passage.

¹³³ For the expression "senses of a more material nature" (which must refer to the senses of touch and taste, cf. *DS* 28) one may perhaps compare *CP* 1.14.3, *Ar. De an.* 409a11, *HA* 525a2; Them. *In De an.* p. 107.30f. Heinze (= fr. 307A *FHSG*).

29~37, size 30~34-35) which are prominent in Anaxagoras' account. Despite Anaxagoras' prominent position at *DS* 1, there is a distinct possibility that Theophrastus did not take him as a strong representative of the contrast party. It seems, then, that Theophrastus' method of collecting material is quite broad in the sense that he also incorporates views he disagrees with.

4. *The Dossier Extended: Diogenes and Democritus*

Diogenes and Democritus belong to those thinkers who did not appear in the introduction; their position in the initial diaeresis (*DS* 1-2) is not clear. When Theophrastus sets out to discuss Diogenes and Democritus, his initial concern is to clarify where they stand in the division of *DS* 1. In Diogenes' case (as with Democritus later) he has to *infer*¹³⁴ what Diogenes thinks on the question whether perception is by contrast or by similarity. He states: "Accordingly one would assume that he [=Diog.] lets perception come about by the same, <for he contends> that there will be no acting or being acted upon unless everything was made of the same <substance>". Obviously Diogenes was not concerned with the two (Theophrastean) types of explanation and he certainly made no effort to join either camp by means of an explicit statement.¹³⁵

4.1. *The Criticisms of Diogenes (DS 39-48)*

The objections formulated against Diogenes of Appolonia are found in three rather extended paragraphs (46-48). The subjects Diogenes discussed are not all common and clearly complement Theophrastus' stock of possible explanations. Compared to Aristotle's treatment of the physiological side of sensation Diogenes' theory seems quite detailed and elaborate, as is clear from his description of human capabilities in terms of bodily functions (memory, temper etc.) and

¹³⁴ διὸ καὶ δόξειεν ἄν. (the optative with ἄν is a way of expressing carefully stated implications — see Ch. 3, n. 94)

¹³⁵ Pace Laks (1983: 112) who makes Diogenes close to the contrast party on account of his place in the treatise (after Anaxagoras, before Democritus). As with Democritus Theophrastus is very careful here and does not reach a definite conclusion (see below 5.4.2 on *DS* 49-50). See also Mansfeld (1996) 178f.

their development.¹³⁶ There is also a particular interest in the *degrees* of the functions of sense organs.

The report of Diogenes' theory (*DS* 39-45) dealing with the sense organs and their general mechanism is elaborate and marked by a specific order of topics and individual vocabulary. This points to a direct influence of the source on the report. The following table lists the topics reported in Theophrastus' account (left column) with the points taken up in the critical evaluation (right column).¹³⁷

<i>DS</i>	<u>Report</u>		<u>Critique</u>
39	– air as principle – which camp? (like-by-like) – smelling/ the brain	46	principle rejected
40	– hearing (connected to air) – sight (+ σῆμειον) – taste (touch not described)	47	— “naive” (but improves in a way on others)
40	– acuteness of senses/ what		
/1	kind of beings have them? – sharpest smelling – sharpest hearing		
42	– sharpest eye sight		
43	– pleasure and pain – courage – health – contraries (...)	47	different processes too much alike through mixture and breathing
44	– thinking (with air) – degrees (moistness; birds, plants)	47	thinking not in all parts
45	– children – temper – forgetfulness	48	degrees of intelligence (easily) refuted

¹³⁶ The point was already mentioned in the discussion of Empedocles' theory (*DS* 11). Cf. DK 64A29, B9 (both from Galen). On his position as a physicist and doctor see Diller (1941) 359-81, Laks (1983).

¹³⁷ For another analytical diagram of the account see Laks (1983) 113 ff.

We may first note that Theophrastus does not criticise all the topics which are reported.¹³⁸ Next, we see that the first sense organ mentioned is smell: the reason must be that it is closest to the basic principle, air. The sequence hearing, sight, and taste (touch not mentioned according to Theophrastus) makes sense on account of the important role air plays in Diogenes' theory. It is no surprise that Theophrastus had access to Diogenes' treatise; of those discussed in the *DS* Diogenes (*floruit* 440-430)¹³⁹ was one of the philosophers close in time to the Peripatos.¹⁴⁰ At this point it is also relevant to notice the arguments based on 'evidence' (*sêmeion*, an indication of a state of affairs), which are especially prominent in the passages on Diogenes.¹⁴¹ Apparently Diogenes adduced 'proofs' to substantiate his assertions. That their role must have been significant in his own theory is probably supported by a fragment preserved by Simplicius, who reproduces an argument of Diogenes based on "great proofs" in defence of air as the vital element.¹⁴²

The monistic theory of Diogenes elicits a 'monistic' refutation by Theophrastus. His criticism of Diogenes is dominated by attacks on the assumption that everything is connected with air, and for this reason, according to Theophrastus, Diogenes' theory lacks persuasion.¹⁴³ Here more than elsewhere the approach is dominated by this 'focal point' in Theophrastus' criticism.

¹³⁸ Perhaps another indication that his main concern was to *collect* the views of the pre-Aristotelian thinkers. We may compare the title preserved in the list of his works *Τῶν Διογόνους συναγωγή α'* (D.L. V 43) as one of several examples in which he seems to have collected the tenets of one specific thinker. I note that in general when Aristotle reports views which are not criticised they are regarded as acceptable.

¹³⁹ D.L. IX 57 (cf. next note). KRS, 434 with reference to the parody in Aristophanes' *Nubes* dating from c. 423 BC (*ibid.* 450, text 614).

¹⁴⁰ Theophrastus calls him "practically the youngest" of the physicists (Simpl. *In phys.* 25.1 = *Phys. Op.* Fr.2). Democritus († 380) was probably closest to Theophrastus. On the relation with Anaxagoras see KRS 427n, 433 and next n.

¹⁴¹ The phrase *σημείον* δέ as an elaboration of the argument occurs five times in the paragraphs on Diogenes (which is half of all instances in *DS*). On the term *σημείον* see Burnyeat (1982) 193 ff. and Lloyd (1971) 425f.

¹⁴² Simpl. *In phys.* 152.18-21 [=DK 64A4]: *ἔτι δὲ πρὸς τούτοις καὶ τάδε μεγάλα σημεία. ἄνθρωποι γὰρ καὶ τὰ ἄλλα ζῶα ἀναπνέοντα ζῶει τῷ ἀέρι. καὶ τοῦτο αὐτοῖς καὶ ψυχὴ ἐστὶ καὶ νόησις ..., καὶ ἐὰν τοῦτο ἀπαλλαχθῇ, ἀποθνήσκει καὶ ἡ νόησις ἐπιλείπει. It is interesting to note the resemblances between the *DS* and Simplicius, who gives an actual quotation from Diogenes' book (as is clear from the Ionic dialect).*

¹⁴³ *DS* 46, *ἀπολείπεται πρὸς πίστιν*. On the importance of *πίστις* in Theophrastus' methodology and epistemology see Ch. 3, p. 84.

The set of objections (*DS* 46-48) starts with a point against the general principle (*DS* 46~39): "Diogenes, wanting to refer everything to air, fails to persuade in many respects". This conclusion sets the tone for the objections that are to follow. Theophrastus' main criticism against Diogenes is therefore the latter's refusal to adopt a differentiated explanation of the physiological aspects of perception. Diogenes' not unfeasible basic supposition proves unfit to be applied in every area of physiology; it produces untenable consequences and flies in the face of certain facts as well. We should note, then, that Diogenes, notwithstanding his consistency, fails to convince Theophrastus, who regards the basic supposition as wrong.¹⁴⁴ The (more philosophical) supposition, viz. that interaction is only possible by a basic affinity between all things, is of course a credible one.¹⁴⁵ The distinction between these two steps of reasoning lays bare the real mistake of Diogenes, that is to say, he chose the wrong principle (air) to fulfill the role of common agent.

According to Theophrastus connecting "everything with air" entails the following difficulties:

(1) Diogenes does not make thinking and perception a specific feature (ἴδιον) of living beings (as he should have¹⁴⁶). Theophrastus objects that air, composition and proportion — apparently Diogenes' main criteria — can exist everywhere and in all things. Again far too wide an application of the basic principle is the central aim of Theophrastus' criticism. Theophrastus seems to indicate that a distinction is needed before anything else. But the emphasis is on explicitness. Diogenes has not foreseen this difficulty, and therefore his account contains no anticipation of this objection.

As to the focus on the general principle we are reminded of a remark by Diogenes which is preserved in Diogenes Laertius IX 57:

¹⁴⁴ Note that Theophrastus has already alluded to this objection by emphasizing the central role of air in all processes of perception (and by implying that conceptual confusion will ensue from such a principle) in *DS* 39: "Diogenes connects all the sense organs with air, as he does with living and thinking". Aristotle (*De an.* A 2.405a21 = DK 64A20) also alludes to this view in the context of the nature of the soul, which, being air according to Diogenes and therefore the most subtle of all elements, enables it to move and understand (διὰ τοῦτο γινώσκειν τε καὶ κινεῖν τὴν ψυχὴν).

¹⁴⁵ It was cited with approval by Aristotle (see below n. 148).

¹⁴⁶ See against Empedocles (*DS* 12), Alcmeon (*DS* 25) and Anaxagoras (*DS* 36), above 5.2.2. Cf. *HP* 9.13.1 and Ch. 3.2. On ἴδιον see Ch. 6.1.1, section [vi] *sub* (4).

“It is my view that the author, at the beginning of any account, should make his principle or starting-point indisputable, and his explanation simple and dignified”. This (second-order) remark about the basic requirements of a theory seems to have been the opening sentence of his work on cosmology.¹⁴⁷ It is probable that Theophrastus’ remark on the physical principle refers to this opening statement.¹⁴⁸

For Diogenes the underlying idea — a reaction to the pluralism of Empedocles and Anaxagoras — is that in order to recognize things some sort of universal kinship is needed. To him air was not inert; from what we can gather in Simplicius Diogenes speaks of the many forms in which the air may manifest itself.¹⁴⁹

(2) Besides the general consideration that air and thought/ perception become too mixed up, Theophrastus observes that the individual senses are in danger of losing their specific function (*DS* 46). Since the air is their common link, confusion is likely to occur. Diogenes did not see the problem of a narrow function of an organ. No doubt he would have explained the difference by a structural aspect of the senses.¹⁵⁰

(3) A brief, or rather elliptic, point is brought forward in *DS* 47 against Diogenes’ account of sight, which Theophrastus calls “naive” (εὐήθη). What are his reasons for this harsh verdict? One may assume that this theory was far too crude (or displayed an excessive lack of sophistication) in the eyes of Theophrastus. Diogenes maintains that we see by inside air. Theophrastus’ reason for rejecting this is not fully expressed — he merely says it is naive to assume “that we see with the

¹⁴⁷ D.L. IX. 57 (=DK 64B1) λόγου παντὸς ἀρχόμενον δοκεῖ μοι χρεῶν εἶναι τὴν ἀρχὴν ἀναμφισβήτητον παρέχεσθαι, τὴν δὲ ἐρμηνείαν ἀπλὴν καὶ σεμνὴν. The use of the terms ἀρχὴν ἀναμφισβήτητον indicates the influence of rhetorico-dialectical techniques on Diogenes’ expository style – a feature far less present in accounts of his (earlier) colleagues.

¹⁴⁸ Another indication that he had consulted Diogenes’ work. Laks (1983: 114) also believes that Theophrastus partly follows the original order (“organisation primitive du texte commenté”). This picture of Diogenes’ monism, viz. that everything must be made of one material, corresponds closely to what we find in Aristotle, *GC* A 6.322b12 (64 A 7 DK, cf. A5). There Aristotle agrees with Diogenes that there must be one basic origin for coming-to-be (ἐξ ἑνὸς ἀνάγκη λέγειν τὴν ποίησιν) because otherwise interaction would not be possible.

¹⁴⁹ Diogenes calls the air “manifold”, explaining this as various degrees of hotness, coldness, dryness etc. and an indefinite number of tastes and colours (πολυτρόπος ... καὶ ἄλλαι πολλαὶ ἑτεροιώσεις ἐνεῖσι καὶ ἡδονῆς καὶ χροῖης, *Simpl. In phys.* 153.1-4 = 64A5 DK). The term ἑτεροιοῦσθαι is also found in Melissos (30 B 7 DK); on the connection between Diogenes and Melissos of Samos see Jouanna (1965) 320 f.

¹⁵⁰ Cf. 64A22 DK ~ *DS* 40.

internal air" — and no argument is given. In *DS* 40 Theophrastus states that Diogenes spoke of a reflection of an object¹⁵¹ in the pupil of the eye (*DG* 510.19), after which sight is produced by the mixing with the internal air (*DG* 510.20). Second, he puts perception, pleasure and thought too much on a par by means of the common agent (air), thus obscuring the distinctions between different functions.¹⁵²

On the other hand, Diogenes is given credit for his particular understanding of the nature of sight (though, as Theophrastus observes, he did not manage to pinpoint the real cause of seeing). This in a way "refutes those who regard reflection as the cause of sight" (*DS* 47; probably Anaxagoras "and most people", *DS* 36).¹⁵³ Diogenes' 'proof' (*sêmeion*) of the explanation of the process of vision is at the same time an indication that the reflection is the stimulus, not the cause (he points to the effect of inflammation of the eyes, which obstructs vision). This implies that some sort of internal cause also plays a significant part in the process. Such a proof must have appealed to Theophrastus. This part of the criticism illustrates how Theophrastus sets off views against each other, clearly in order to find the most acceptable one.

(4) Several phenomena conjoined with perception such as pleasure and pain were apparently treated by Diogenes (*DS* 43). He also spoke of courage, health, and their contraries. Theophrastus will have agreed that these have a place in the field of physiological psychology (cf. Ch. 3.1), but he refuses to accept the central role air is made to play in them. When Diogenes attributes perceiving, pleasure, and thought to respiration and to mingling with the blood, Theophrastus objects that many animals are either bloodless or do not breathe at all (*DS* 47–44). In bringing forward such (stock) examples of specific exceptions Theophrastus typically undermines Diogenes' claim that these three processes are connected with air, respiration and the mingling with blood.

¹⁵¹ See Laks (1983) 129 f.

¹⁵² It is, however, not easy to detect the *criterion* for 'naïveté' (cf. 48). On the judgmental vocabulary see also Ch. 3.2.2 and Baltussen (1998).

¹⁵³ There is a striking parallel of such an argument of one thinker refuting others in Aristotle, *De an.* 405b1–4 where one of "the cruder thinkers" who thought of soul as water is said to "refute (ἐλέγχει) those who say that it [=soul] is blood by pointing out that the seed is not blood, and that this seed is the rudimentary soul". This resemblance might seem insignificant, were it not that both remarks appear in a list of arguments (see Ch. 2, n. 72). The parallel might originate in a common source or in a list of objections.

(5) Thinking with air leads to the unacceptable situation that “remembering and thinking would be possible in all parts of the body”. Theophrastus denies this; thinking (*nous*) belongs in a determinate place.¹⁵⁴ He argues against the passage in the report where Diogenes explains why birds and young children do not think (44): “Thinking is due to pure dry air, for moisture clogs the mind ... it is true that birds breathe air that is pure ... their breath is not allowed to penetrate the entire body, but is made to stop in the region of the belly. As a result, it speedily digests the food, while <the animal> itself remains witless”. The remark, if close to Diogenes’ original words, already betrays the polemical tone used to counter an objection which refers to birds (“*it is true* that ..., *but* ...”). Diogenes seems to have held that the lack of wit (*aphrôn*) pertains also to children, a point denied by Theophrastus in the sentence dealing with birds.

After a reasonably objective start Theophrastus now casts aside all restraint and forcefully exploits the implications of the air theory.

(6) He objects to the distinction between men and animals by purity of air (*DS* 48). The correct *diaphora* is that according to nature, viz. between animate and inanimate beings. The upshot of such a distinction would be that change of place can entail change of intelligence and that birds (mentioned by Diogenes himself, see *DS* 44) would be the most intelligent beings. (Note that Theophrastus ‘overlooks’ the fact that Diogenes also mentions a reason why this is not so.) And finally, the remark on intelligence in plants is countered without further argument as being a rather unimaginative way of dealing with the subject; he denies that hollowness can be a distinctive feature (or criterion) for deciding upon the presence or absence of intelligence.

I summarize. The six arguments distinguished reveal Theophrastus’ selective approach in his criticisms. He attacks the leading principle and its manifestations. In the eyes of Theophrastus Diogenes’ explanation of sensation leaves much to be desired. We see how his criticisms show up the major flaw of the air principle. It creates a muddle among the sensory functions and between perception, pleasure and thought (nos. 1-2, 4-5). Diogenes seems to have done worse than others, because his views are called “naive” (*euêthes*) and the final judgement is clear: “Diogenes goes astray from what is reasonable”.¹⁵⁵ This is balanced by the fact that Theophrastus gives Diogenes credit on one

¹⁵⁴ On the definite place of thinking cf. below on Democritus (argument no. 5).

¹⁵⁵ πολλά διαμαρτάνει τῶν εὐλόγων; the verb is also used of Empedocles.

point, viz. that *emphasis* was not sufficient to explain sight (*DS* 40). It is noteworthy that with Diogenes Theophrastus uses only the technique of following up the implications of the main thesis, and does not employ the method of looking for implicit contradictions. Though some of its details deserved serious consideration, as a whole the theory must have seemed somewhat old-fashioned and simple.

4.2. *Against Democritus (49-58)*

Democritus is the second thinker who receives attention without having been mentioned in the introduction. As with Diogenes Theophrastus regards the attribution to either party as problematic. However, in this case the issue is exaggerated. In the report we find indications that could have settled the question without difficulty (e.g. *DS* 50).¹⁵⁶ Further evidence can be procured from the *Phys.op.* Fr. 8 (*DG* 484.6) where we find the phrase "like is moved by like".¹⁵⁷

The exceptional presentation of the report and criticism of Democritus' theory has been discussed earlier (Ch. 5.2.3). We may now confine ourselves to the objections and indicate what points need special attention. The first set of objections against Democritus also focuses on a central issue, the "imprinting in the air" (*apotyphôsis*).¹⁵⁸ Their general thrust is to show that the imprint on the air is a concept which is unclear in details and unable to fit the facts (*DS* 53).

(1) Against the idea of an imprint as such (*DS* 51) three points are brought forward:

(a) it is "odd" (*atopos*) because it presupposes a sort of consistence of the material impressed (*DS* 50, *stereon onta*; cf. b). In addition, Theophrastus indicates there is a (self-)contradiction where Democritus speaks of the analogy of the wax-tablet.

¹⁵⁶ ὅμοιον ὑπὸ τοῦ ὁμοίου κινεῖσθαι. This approach is perhaps evidence for a 'scholastic' (or casuistic) approach of the question in the *DS*. The point seems hardly problematic in Aristotle *GC* A 7.323b10-14; *Plac.* IV 19.3; Sext. Emp. *M.* VII.116. The problem is judged differently by different scholars, see L. Philippson (1831) *Comm. ad loc.*; Beare, 24n., 205-6; Cherniss (1935) 91-92; McDiarmid (1953) n.223; von Fritz (1953) 89 ff.; Barbotin (1954) 91; Baldes (1976) 45-46 n.6 (referring to *Phys.op.* Fr. 8 – see next note); Mansfeld (1986) 18.

¹⁵⁷ The text is in Simplicius, *In phys.* 28.19-21 [= fr. 229.17-20 *FHSG*]. There is however a difference between like-by-like in affecting and in knowing, as von Fritz (1953) 90-1 points out.

¹⁵⁸ Discussed by Baldes (1975a) (1975b) and Regenbogen, col. 1401.

(b) Water would even be better as material than air, Theophrastus suggests, ‘quoting’ Democritus’ motivation in *DS* 50 (τὸ μὲν πυκνὸν οὐ δέχεσθαι, τὸ δὲ ὑγρὸν διένειναι). Apart from the implicit sting about the properties of water as ‘mouldable stuff’, a further serious problem is pointed out to Theophrastus’ own suggestion of water as a better material, viz. that we cannot see better *in* water.¹⁵⁹ This self-refutation by Theophrastus is a natural (and correct) elaboration of this *reductio ad absurdum*.¹⁶⁰

(c) The idea of an imprint is redundant, since we see the form which is provided by an emanation. Here Theophrastus seems to draw on two different statements by Democritus and to play them off against each other.¹⁶¹

This first sequence concerns the fundamental question “why *apotyphōsis* at all?” The three steps (a-c) deal with the proposed mechanism which seems to contradict observation (a), and then with the analogy and the lack of explanatory power regarding the different types of material (b). The argument culminates in the rejection of the imprinting as such (c), because Democritus, having already given a sufficient explanation (emanation), does not need this peculiar concept of an air imprint.¹⁶²

The rhetorical thrust of this refutation has not remained unnoticed.¹⁶³ That Theophrastus’ opposition to the concept is motivated by philosophical convictions is clear enough. It is his tactics that need further clarification. For instance, we should take notice of the fact that Democritus’ own words are used to ‘confirm’ the initial point brought against him. The obstructive mode emerging from several aspects may take its cue from dialectical prescriptions. In the first point we see that the level of observation is Theophrastus’ main concern; it is absurd to

¹⁵⁹ Despite the remarks on density and fluidity in the ‘quote’ earlier. Note that there is no reference to his view that the eye consists of *water* as stated by Aristotle, *De sensu* 438a5-16.

¹⁶⁰ He argues against his own inference – as he seems to do more often against Democritus than against the other Presocratics. That ‘self-refutation’ is a preparatory stage of the dialectical debate was noted in Ch. 2.1, n. 27.

¹⁶¹ This makes it likely that Theophrastus’ draws on different passages. But whether they are taken from different works, as has been suggested by Baldes (1976: n.8), can hardly be determined.

¹⁶² The argument calls for economy of principles (cf. *Top.* Θ 11.162a25f.).

¹⁶³ See Baldes (1975b) who notes the “cumulative effect of the whole criticism” (103), and the use of a “*reductio ad absurdum*” (104).

speak of imprint on the air because of the nature of the material.¹⁶⁴ Democritus' idea is ridiculed by Theophrastus' next suggestion that he should have taken water instead of air, thus as it were improving upon the opponent by offering a 'better' alternative.

(2) Whereas the first argument seeks to reject the idea of an air imprint, the second provisionally adopts the imprint theory (*ei de de touto symbainei*; similar approach in *DS* 35, 47) in the light of the wax analogy and looks at some problems involved.

(a) First, it is asked how the reflection, which is the result of the process of *apotypōsis*, comes about and what its nature is (πῶς καὶ ποῖα τις, *DS* 52). (b) Second, Theophrastus infers that an imprint faces the object and assumes that as a result the object is seen inverted; Theophrastus implies that we cannot see an object properly unless we see the side of the imprint that faces the object. For this it must be turned around (left and right being reversed); turning, however, requires a cause.

The question about the mechanics of the reflection following the imprinting is justified, but the elaboration gives undue emphasis to the analogy. Here Theophrastus exploits the words of Democritus and argues against an inference. Thus the fundamental point attacking the supposition of the theory (argument 1) is followed by a discussion of its function indicating a puzzle implied in the analogy (argument 2).

(3) Next, Theophrastus explores the capacities for seeing as envisaged by Democritus.

(a) The first problem concerns the multiplicity of objects. According to the objection formulated it is difficult to see many 'imprints' simultaneously. The situation is that of one observer and several objects.¹⁶⁵

(b) Further it is asked how (two) persons can see each other. This point resembles (a) in that it considers the observer-object situation, but takes two observers to deal with reciprocal vision.

(c) The next step deals with reciprocal vision for one person: why does not each person see himself?¹⁶⁶

¹⁶⁴ δεῖ γὰρ ἔχειν πυκνότητα καὶ μὴ "θρύπτεσθαι" τὸ τυπούμενον (*DS* 51).

¹⁶⁵ A similar problem is in Aristotle, *De sensu* 447a11 ff. on the question whether two stimuli (here of different force) can be perceived at the same time.

¹⁶⁶ On this particular argument see also Ch. 6, n. 22.

These three objections exploit possible implications of the theory, each marking a further step of ingenious inference. All these points are left unexplained by Democritus' theory. By countering them with a question, often keeping the elaboration to a minimum, Theophrastus stresses the problematic nature of the theory.¹⁶⁷ This leads up to the emphatic rejection of the idea of the imprinting of the air: "the imprinting of the air is complete nonsense" (ὅλως δὲ ἄτοπος ἡ τοῦ ἀέρος τύπωσις). Characteristically this verdict is followed by reference to Democritus' own words (ἀνάγκη γὰρ ἐξ ὧν λέγει κτλ.) implying that Democritus himself is inconsistent.¹⁶⁸

Presented in this way these three arguments illustrate the carefully planned attack on what Theophrastus must have considered an unacceptable element in Democritus' explanation of vision.¹⁶⁹ His refutation contains a shift of attention, which enables him to weaken the opponent's position. The procedure callously neglects Democritus' use of the analogy — which may have been meant to be explicative or even probative — and regards the process of a wax imprint as identical with the process of vision. As a justification for this approach Theophrastus makes use of exegetical paraphrase, only to exploit the implications of this narrow view on the analogy.

The remaining arguments against Democritus' views on vision represent a further step in 'going along with' the opponent's view as started at (2). The point is introduced by a typical "if", marking a third

¹⁶⁷ Cf. *DS* 52-3 ὥστε τοῦτο ζήτησιν ἔχει and in *DS* 55. That Democritus' theory leaves much to be explained is also stated in *CP* 6.7.2 concerning flavours which are generated out of each other.

¹⁶⁸ The phrase starting with ἐξ ὧν λέγει could be a (shortened) quotation. The idea that Theophrastus used different works of Democritus *on sensation* (cf. above n. 53 and n. 161) is conjectural and it would take further examination of the fragments of Democritus to make it more probable. Theophrastus no doubt knew several works of Democritus, who was a prolific writer. In the list of Theophrastus' writings (D.L. V 42-50) we find two titles referring to works dealing with Democritus: V 43 περὶ τῆς Δημοκρίτου ἀστρολογίας α', V 49 περὶ Δημοκρίτου α' (cf. also in the list of Aristotle D.L. V 26, Προβλήματα ἐκ τῶν Δημοκρίτου β', D.L. V 27 πρὸς Δημόκριτον α'). On Theophrastus' use of paraphrase and quotation see also Ch. 4.3.

¹⁶⁹ The imprint is referred to as ἐντυπώσις (perhaps Democritus' term), ἀποτύπωσις and τύποις/τύπος (apparently they have the same meaning). In Theophrastus' view it is unacceptable, because impossible: we are reminded of the criterion for a convincing and acceptable theory, namely that it does not produce ἀδύνατα, cf. *Top.* Z 3.140b35 and Ch. 2.1.

stage of acceptance after having questioned the possibility of imprint as such (1-2) and the actual mechanism if its existence were granted (3).

The remaining points (argument 4-7) concern other aspects of the theory, such as permanence of images (day-night), the 'demarcation problem' (i.e. demarcating the scope of the senses in relation to their objects), the basic principle of perception and an omission.

(4) (a) "if this imprint were to remain in existence, we ought to see imprints of objects at a distance and (even) out of sight" (*DS* 53). This point presupposes a view on the perceptive act as we naturally experience it (i.e., it is an *endoxic* view), namely that the observer and object are within reasonable distance of each other. This view is related to the perception of size and distance (cf. *sub* 6), but implicitly also considers the problem how long this air imprint remains.¹⁷⁰ By taking up the aspect of endurance he points out that the natural view on seeing, which is more narrow, is under threat. If we do not put a limit to the period of time the imprint is still seen, some strange consequences follow, e.g. that we can see things which are not "within sight".¹⁷¹

(b) By adding "if not at night, then at least by day" Theophrastus again brings in the problem of night and day vision,¹⁷² but from a different angle. This time he is proposing an alternative view.¹⁷³ The factor which he thinks has an important influence on the endurance of an imprint is the temperature of the air, as visibility at night depends on it¹⁷⁴: "it is however likely that the imprints remain not less (well) by night, inasfar as the air is cooler then" (*DS* 54).¹⁷⁵ On the basis of Democritus' own words ("as he seems to mean..."), a further

¹⁷⁰ Compare the residual *eidola* of the gods in Epicurean philosophy.

¹⁷¹ We should compare Priscian *Metaphr.* p. 24.22-24 Bywater [fr. 299 *FHSG*]: τὸ μὲν γὰρ ἐν τῷ αἰσθητηρίῳ πάθημα παρόντος συμβαίνει τοῦ αἰσθητοῦ, τὰ δὲ φαντάσματα γίνεται καὶ ἀπόντος. "for the affection in the sense organ occurs while the object is present, whereas the mental images exist even when it is absent".

¹⁷² The subject occurred in the section on Empedocles (*DS* 8), Anaxagoras (*DS* 27), and Diogenes (*DS* 42).

¹⁷³ That this is probably Theophrastus' own view is indicated by ἵσως and εἰκός, see Ch. 3.1 and Stratton, n. 136.

¹⁷⁴ Cool air apparently being a more favourable factor than hot air. A parallel on this point exists: "Theophrastus libro Commentorum: dum in *intenso* fuimus *frigore* ... *acutiusque* videmus" (Lumen animae B [= fr. 290 *FHSG*]). But it is a very unreliable source, see Sharples (1984) 187 ff. and *id.* (1988) 181 ff.

¹⁷⁵ For a textual problem, see Appendix A, section 1.

consideration is added, viz. that perhaps the sun plays a part in the process.¹⁷⁶

(5) The demarcation problem of the sense organs and perceptive capacity is taken up next (*DS* 54). Theophrastus objects that sensation does not take place “in the rest of the body” (ἐν τῷ ἄλλῳ σώματι). Democritus was no doubt concerned with the relation between the sense organ and the body (perhaps even considering the possibility of a central perceptive organ), but it is not clear that the opposition between the eyes and “the rest of the body” was, if at all present, as strong in Democritus. Yet this is suggested by Theophrastus’ reference to Democritus’ own words (*DS* 54, φησὶ γὰρ). It seems that Democritus here dealt with the transmission of imprints, since the paraphrase mentions the requirement for “emptiness and moisture in order that it may the more readily receive <the imprints> and transmit (παραδιδῶ) them to the rest of the body”. He seems to have held that sounds are conveyed to the whole body (e.g. ταχὺ σκίδνασθαι καὶ ὁμαλῶς κατὰ τὸ σῶμα, *DS* 56). By taking this to mean that the whole body actually perceives Theophrastus has to reject it (cf. Ar. *De an.* 420a3-15, 424b14-15).

One can have misgivings as to whether Theophrastus is stating Democritus’ view accurately, but there is no parallel text to verify such a suspicion.¹⁷⁷ Moreover, the violent intrusion of air into the body (μετὰ βίας εἰσιόντος, *DS* 55) is another point not acceptable to Theophrastus (cf. below no. 9).

(6) At this point (*DS* 54) Theophrastus goes back to the basic principle (cf. *DS* 1 and 49) and accuses Democritus of a contradiction. On the one hand there is the notion that especially the cognate things are best seen (τὰ ὁμόφυλα), and on the other Democritus explains reflection by *contrast* of colours. This is a rather forced objection in which he points out that in the mechanism of one sense organ the like-by-like principle is used, whereas in the other contrast is among the explaining factors. Clearly this opens the door to the charge that the basic principle is not used throughout.

¹⁷⁶ This suggestion reflects Theophrastus’ own doctrine, Steinmetz (1964) 118.

¹⁷⁷ But the same point is also made against “the proponents of the theory of shapes” (tr. E.-L.) in *CP* 6.2.3 οὐχ ὅτιοῦν μόριον αἰσθητικόν! Note that the criticism of Aristotle against “Democritus and most *physiologoi*” (*De sensu* 442a29-b1) is not repeated (*DS* 56, but cf. *DS* 58).

(7) Finally, Theophrastus remarks that Democritus does not succeed in explaining magnitudes and distances (*DS* 54 end).¹⁷⁸ No argument is given.

All the arguments discussed so far were concerned with sight and in all cases the objections point to a negative judgement on Theophrastus' part. The final point of the whole discussion is clearly set off from the rest and has only one message, viz. that Democritus' theory is original but leaves much to be explained. Theophrastus seems to acknowledge Democritus' intention (ἰδίως ἔνια βουλόμενος λέγειν), but rejects the outcome of these attempts, which seem to generate problems rather than solve them.

In the paragraphs which follow (*DS* 55-56) Theophrastus gives Democritus' view on hearing (mechanism, degrees of intensity), which he thinks much resembles that of others. Apparently Democritus did not attempt to go his own way here as he did with sight. Two specific points are criticised (*DS* 57-58):

(8) a minor point on clarity: Democritus' account of hearing is as unclear as that of other thinkers (*DS* 57).¹⁷⁹

(9) Again the point of demarcation is raised (cf. no. 5). Here the problem is not quite the same, because it is conceivable that the body can sense ('feel') sounds: empirical evidence can lead to the view that sounds convey their impact to the whole of the body. This is perhaps the reason why Theophrastus is more careful in countering Democritus' description. He points out that there is a lack of distinction between "suffering" (undergoing, *paschein*) and "perceiving" (*aisthanesthai*), since it is the prerogative of the ear to pass on the sounds to the soul and make them perceived.¹⁸⁰

The foregoing analysis of criticisms against Democritus was divided into three parts, i.e. objections regarding sight, hearing, and additional points, to demonstrate the thematic approach present in the objections raised. It is important to note that the criterion of originality (or: idiosyncrasy) directs Theophrastus' attention mainly to the explanation of

¹⁷⁸ τὰ μεγέθη καὶ τὰ διαστήματα. On these Aristotelian concepts see Ch. 3.1.

¹⁷⁹ Theophrastus states: τὸ μὲν οὖν ἀσαφῶς ἀφορίζειν ὁμοίως ἔχει τοῖς ἄλλοις (*DS* 57). It is not clear whether the earlier remark on the resemblance to other theories of hearing referred to this aspect alone or the whole account. On the principle of clarity and definition, see Ch. 2, n. 70 and text thereto.

¹⁸⁰ Cf. Prisc. *Metaphr.* 17.14f. Bywater [fr. 277B.56-58 *FHSG*].

vision. The order of exposition as presented here is the best we can do in trying to find a specific underlying pattern. In comparison with the other Presocratic thinkers the approach is more focused on one point and the opposition to the ideas of the thinker at issue is stronger.

By regarding the series of objections (in each part) as largely determined by a focal point, e.g. the moulding of the air into an imprint (nos. 1-3), the refutations could be given a certain degree of coherence which at first glance seems difficult to find. Despite the fact that here we find unique material on Democritus' theory of vision, the report does not allow us to fully assess the idea of *apotypōsis*. As Aristotle says nothing about it, we are left with another case of 'source divergence' between the two scholarchs. Moreover it is odd that Theophrastus seldom refers (either implicitly or explicitly) to Aristotle's views on Democritus (cf. above *DS* 22, 40). There is only one clear Aristotelian echo in the whole discussion of Democritus (*DS* 58 ~ *De an.* 404a27-31, 405a8-9). An example of variation in argument is found in *DS* 53 (διὰ τί ποτε ἕκαστος αὐτὸς αὐτὸν οὐχ ὁρᾷ;), which comes close to the inference of Aristotle at *De sensu* 437a28f. Still, there is evidence to suggest that some items are discussed in imitation of Aristotle's treatment.¹⁸¹

5. *Argumentative Principles: Some Preliminary Results*

Let us recapitulate some of the main results from our analysis of the critical treatment of the Presocratics.

Generally speaking Theophrastus uses two modes of attack focusing on (a) the consistency and (b) the universal applicability of a theory. These aspects are typically put to the test by following up the consequences and implications of the claims under discussion. This is corroborated by two remarks which concern implications (Parmenides, *DS* 4) or the consequences of the main thesis (Anaxagoras, *DS* 29).¹⁸² Within these two modes the individual points are approached from different angles, thus producing quite a number of criticisms.

Another recurrent feature is the distinction Theophrastus makes between observations on *specific* points and those aiming at a more

¹⁸¹ E.g. n. 135.

¹⁸² On universal validity and its relation to the *archai* see Ch. 6.

general level. For the latter this applies in two senses: either he (implicitly) refers to the level at which their basic principle of perception is applied or he speaks of the scope of his own conclusions. The operative words are ἀπλῶς and ὅλως. Theophrastus' use of the terms is broadly the same as in Aristotle.¹⁸³ We already pointed to the distinction between καθόλου and καθ' ἕκαστον (Ch. 3.1), which concerns doctrinal matters rather than second-order observations. In the *DS* these terms have different functions, e.g. as the climax in the sequence of arguments (*DS* 69 ὁλῶς) or as a generalizing or sweeping statement (e.g. *DS* 64; more examples in 6.1). Theophrastus is trying to assess the scope of the claims in earlier theories by rephrasing them in his own terms. In these cases the reports obtain a less 'objective' quality in that the attempt at understanding already leads to minor adjustments.¹⁸⁴

It is not improbable that there is a connection with the inductive and deductive approach of dialectic (*Top.* A 12). For instance, Theophrastus often switches from observations on specific points to a more general conclusion by using ἀπλῶς, ὅλως. The point is worth noting; the dialectical prescriptions in *Top.* Θ especially recommend the inductive approach as being clearer, but also the use of propositions in their most general form possible (*Top.* Θ 14.164a2-11).¹⁸⁵

As to the mistakes Theophrastus detects in the theories we may distinguish two types. Either certain aspects have not been dealt with at all — note the verb παραλείπω, compare προσσφορίζειν παρήκεν *DS* 82 — or they have been dealt with in the wrong way. In both cases he applies *endoxic* standards (including Aristotelian ones). In doing so he is unhistorical without, of course, intending to be so.

In short, the evidence suggests that Theophrastus seeks to find out whether the theory under discussion can be applied under all circumstances without running into difficulties; e.g. at *DS* 31 he points out that Anaxagoras' explanation produces a conflict between reasoning

¹⁸³ For ἀπλῶς see Bonitz, *Index* s.v. ἀπλῶς 76b-77a, and *LSJ* "simply, in one way (e.g. *Top.* 158b10); absolutely (e.g. *Top.* 115b12)", often in contrast with "double, in many ways" (διχῶς, πλεοναχῶς). For ὅλως see Bonitz, *Index* s.v. 505b55-57: "in principio enunciationem positum ... ubi ad propositionem vel rationem magis generalem transitur" (e.g. *De an.* 410b8). Bonitz also indicates that ὅλως is synonymous with καθόλου.

¹⁸⁴ On *DS* 88-89, 91 see also above Ch. 4.3.

¹⁸⁵ Compare the phraseology from *Phys.* A (discussed above, Ch. 2.2). For its occurrence in *DS* see n. 183 and Ch. 6.3. We can also think of the advice to use deductive reasoning against more experienced debaters, whereas induction should be employed in discussion with the younger and inexperienced ones (*Topics* Θ 14).

and reality ('the facts'). As the Presocratics themselves claim to have consistent and universally applicable 'theories' (e.g. Parmenides' *logical* theory of knowledge or Heraclitus' *universal* Logos), Theophrastus is taking them at their word. He starts by scrutinizing their conclusions within their theory, but also (and this is not unhistorical) by paying attention to the facts involved and adding those aspects which were left unexplained.

Even if we have studied the questions and objections in some detail, the foregoing conclusions regarding Theophrastus' method in his criticisms only give a general and *descriptive* picture of his approach. A more analytic characterisation of the argumentative principles involved in his objections in *DS* will be given in the next chapter.

CHAPTER SIX

APPLIED DIALECTIC IN *DS*: IN SEARCH OF *ARCHAI*?

1. *A Typology of Arguments*

The present chapter is concerned with the question: to what extent is Theophrastus' argumentative approach dialectical *sensu Aristotelico*? The answer to this question is important for reconstructing the aims of the author in his undertaking of commenting on the earlier theories of perception in the way he does.

Our analysis of *DS* so far has paid attention to the overall structure of the text (Ch. 3.2) and the main critical sections (Plato Ch. 4, Pre-socratics Ch. 5). It has emphasized the degree of order immanent in the text, thereby making clear that the general structure of *DS* is the result of some sort of 'plan' or wider strategy, or at least of a number of underlying criteria, which were decisive for the form in which it has come down to us.

First we will consider what argument forms in *DS* bear the mark of dialectic. Since it is *a priori* unlikely that any Peripatetic treatise will have a pervasively scholastic appearance (in the sense of being modelled after a 'textbook'), it will be wise to adopt a more nuanced approach. We will have to consider recurrent argument forms (6.1.1) and argument forms applied more selectively (6.1.2). Obviously not all argument forms are inspired by dialectical types. This point, which has been considered briefly in a previous section (5.5), gives us further insight into Theophrastus' working method, that is to say, it allows us to find out whether or not he applies a finite set of arguments mechanically. We will then move on to consider the question whether the 'most appropriate function of dialectic' — the finding of *archai* (basic principles) — is found in *DS* (6.2). As will be clear by now, my argument aims at taking seriously the claim in *Top.* A 2 that dialectic can be useful for scientific purposes, esp. for finding *archai* on the basis of *endoxa*. I shall prepare the way by examining the meaning and use of the term *archê* in Aristotle (6.2.1) and its occurrences in *DS* (6.2.2). We will try to answer the question in the next section while dealing with possible obstacles (6.3). The argument of sections 6.1-3 aims at making

it probable that the dialectical method is the underlying force directing Theophrastus' approach in *DS*. To what degree the search for *archai* played a significant role in it remains to be shown. A short summary will conclude the chapter (6.4).

1.1. *Recurrent Argument Forms*

We will first pay attention to *recurrent* argument forms applied more or less routinely. The most efficient way to list these is to set up a typology of arguments. The term 'typology' denotes a classification of certain argumentative tendencies which are in line with general guidelines from Aristotle's *Topics*. Significant examples are those based on a specific *topos* (topical guideline) from this work. In this selection of arguments some examples used earlier will reappear, together with new instances taken from *DS*.

In the absence of a convenient edition it seems best to quote the main criticisms in Greek. This will facilitate the presentation of the evidence in two ways:¹ first, because it is the criticisms which were mostly neglected by Diels in his *Vorsokratiker* and secondly, because this will enable readers to appreciate more directly the phrasing and terminology.² By trying to expose dialectical procedures we will better understand Theophrastus' rigorous use of logical rules. It partly explains why he is not always concerned with measuring his opponents by their own standards. Of particular relevance are those passages in the *Topics* where the patterns according to opposites and levels of generalisation are set out. We may now begin with those features in *DS* which are most obvious (vocabulary), and will proceed to describe more hidden or implicit aspects in the text that deserve attention. Arguably the following types of arguments can be distinguished:

- [i] Arguments dealing with definition & terminology.
- [ii] Arguments using *endoxa*.
- [iii] Arguments dealing with coherence & consistency.
- [iv] Arguments dealing with universal validity.
- [v] Arguments dealing with causes.
- [vi] *Topical* cases.

¹ Diels's edition (DG 499-527) is no doubt the best edition to date, but hardly the most convenient. A new edition is being prepared by A. Laks – G. Most.

² See Ch. 1.2.1.

This classification is by no means complete (and there are some overlaps), but will suffice to show that general and specific characteristics deriving from dialectic are present in the *DS*.

[i] *Arguments Dealing with Definition & Terminology*

The first class of examples concerns the requirement that is posited time and again for clear and explicit *definition*, or the *demarcation of concepts and terms*. From a terminological point of view this is evidenced by the fact that the verb *ὀρίζειν* (or composites thereof)³ occurs in almost all critical passages. This condition seems justified in many cases, but in a number of cases it strikes one as being external or mere 'Wortstreit'.⁴ First of all, we must not forget that at that time the exegesis of the early Greek thinkers may have caused real problems as to what they actually meant. Their often poetic and metaphorical way of speaking easily led to (attempts at) reformulation and thus misinterpretation.⁵ In general (and in dialectic in particular) it was common practice in a philosophical discussion to ask for an unequivocal use of words and sentences.⁶ That this kind of creative interpretation seems to *us* irrelevant or unfair is a quite different matter. It is true that in the *Topics* Aristotle "sometimes suggests counter-arguments which seem to be so irrelevant to the matter in question", but whether it can be inferred from this that "we are justified in drawing the conclusion that he did not believe in or even did not fully grasp the implications of the thesis against which these arguments were to be used; *his criticism is external, not immanent*"⁷ is a matter of dispute.

From a methodological point of view, Theophrastus also seems to have favoured this sort of explicitness with regard to the structure of a theory and its application of the principal explanation(s); I already pointed to Theophrastus' remark that only Empedocles could be

³ Some statistics: *ὀρίζειν* occurs 28 times (of which 13 times *ἀφ*-, 8 times *δι*-, 3 times *προσαφ*-); cf. *διορισμός*, *DS* 19 and expressions demanding clarity such as *ἀκριβολογεῖται* (*DS* 6), *δεικτέον* (*DS* 52), *διασαφέν* (*DS* 81), *διακριβοῦν* (*DS* 82), or, conversely, *ἀσαφῶς*, *ἀόριστον*. Points related to definition were noted in Ch. 5, nn. 74, 78, 81 (+94).

⁴ Regenbogen, col. 1401.27. For some examples of this line of interpretation see Stratton, 60 ff.

⁵ Cf. Ch. 5, n.85; Steinmetz (1964) 337. See also *DG* 476.11 (*Phys. op.* fr. 2).

⁶ See for instance *Top.* A 15.106a9 ff., and IX. *passim*; *Rhet.* Γ 8.1409b11. The point is well discussed by Repici (1990).

⁷ Düring (1968) 206 (my italics).

found to link the general rule *explicitly* to the more specific level of the individual senses.⁸

It goes without saying that the emphasis on verbal clarity ('definition') is an extremely important element of the task of the dialectician: testing propositions and rejecting them on the ground of ambiguity or lack of clarity is a basic rule of correct reasoning. As *Top.* A 6 clearly states definition has a central role in the procedure, since all predicables (genus, definition, *idion*, *accidens*) are related to the definition.⁹ Paying attention to (the lack of) differentiation is described as an important tool in the *Topics* (it is also a predominant theme in Theophrastus' botanical works).¹⁰ Specifying a *diaphora* enables us to distinguish things according to their kind (*genos*). Equally important is the formulation of questions and answers, not only in terms of content but also as to the words used (number, kind).¹¹ This concerns the correctness of a proposition or definition, an aspect fully exploited in the training of dialectic (*Top.* Θ 2).

There is a loose and more technical use of the term ὀρίζειν. It may be taken to mean 'demarcate, describe clearly' in a non-technical sense. Here the clarity demanded refers mainly to a description which is given yet not sufficiently clear (that is why Theophrastus may ask for additional clarification, e.g. *DS* 3 *προσαφορίζειν*). Such a condition may today be considered a natural part of scientific thinking, but we should remind ourselves that such an emphasis on distinctions became an indispensable part of it from the dialectical training as taught and laid down by Aristotle (see *Top.* Z 1.139b12 ff. on insufficient definitions). On the other hand there are instances where a more fundamental meaning of 'definition' is implied, especially when Theophrastus points out that a clear 'description' is lacking altogether. Here the objective limit of a thing is envisaged in the sense of "demarcate, find limits of" (cf. Repici (1990) 189 f. and 194). The repeated stress on giving a distinctive feature (διαφορά) usually is the operative element in clarifying what a thing is.¹²

⁸ *DS* 2, above p. 16.

⁹ Aristotle explains that they are in a way 'definitory' (τρόπον τινὰ ὀρικά), but that there is hardly one method to study them all (102b34-36). Theophrastus seems to have disagreed with the latter part of this view, see Ch. 2, n. 5.

¹⁰ See Ch. 2.3.

¹¹ Cf. Ch. 2.1.

¹² In his *Metaphysics* Theophrastus states that there can be no knowledge without distinctions (*Met.* 8b15 f. Ross).

In *DS* Theophrastus often looks at the claims made for the functions of certain materials. For instance, when discussing Empedocles' idea of vision through fire or Democritus' idea of air imprint. As we will see (below, [v] Causes) these examples demand clear distinctions on those points which Theophrastus has found to be without *explicit* explanation. They illustrate that Theophrastus allows for no gaps in the description of the theory, in other words: there should be full correspondence between the verbal expression of things and the powers and characteristics of these things, as there should be a justification of every part of the theory, either fully spelled out or sufficiently implied. Terminological clarification is also important, for instance in *DS* 72 where suddenly the technical term διελεῖν (διαίρεσις) occurs: "qualities arising by touch either show some difference in comparison to tastes — a difference he should make clear (διαφορά ἔδει διελεῖν) — or he has neglected to tell ..." (*acc. interioris obiecti*). Obviously the clarity of language and definition lies in the distinctions made. This is the overall condition underlying the majority of criticisms. The frequency of the words διαφορά, διαφέρειν supports this.¹³

[ii] *Arguments Using Endoxa*

We have seen that Theophrastus regularly appeals to authoritative views. Such examples indicate his use of (qualified) views. The different parties involved in comparing or opposing positions bear a striking resemblance to those mentioned in the *Topics* in the 'definition' of the *endoxa*. For instance, he compares views of the *sophoi* with views "commonly held" and also tries to determine or indicate their relationship in terms of agreement and disagreement. Certain cross-references mentioned earlier (Ch. 3.2) are a sign of this tactic. But also the references to common view (δοκεῖ ἅπασιν and the like)¹⁴ fit the tendency to assess the originality of the views. The following examples may illustrate the different *endoxic contexts*:

¹³ See *DS* 12, 13, 25, 48, 61, 67, 72, 74, 79, 80. (*DS* 79 was discussed in Ch.4, see n. 89 and text thereto). On defining see also Ch. 5, nn. 17, 18, 20.

¹⁴ *DS* 82 (see also below n.59). There seems to be a problem as to the scope of ἅπασιν here; one would like to know whether he means everybody or all philosophers.

(a) within the group of *sophoi*

DS 57 (Democritus) “It is unreasonable and *unparalleled* (to suppose) that the sound pervades the whole body” (ἄτοπον δὲ καὶ ἴδιον <τὸ> κατὰ πᾶν τὸ σῶμα τὸν ψόφον εἰσιέναι...)

DS 38 “Clidemus alone expresses an *idiosyncratic* view about the sense of sight” (Κλείδημος δὲ μόνος ἰδίως εἴρηκε περὶ τῆς ὄψεως...)

(b) common view, often rejected

DS 37 “this is a general and old view ... “ (κοινήν τινα ταύτην καὶ παλαιὰν δόξαν); see also *DS* 36.

DS 72 “this is a very old doctrine, for all the ancients, the poets as well as the wise, explain thinking according to the (physical) constitution” (ἀρχαιοτάτη δόξα. πάντες γὰρ οἱ παλαιοὶ καὶ [οἱ] ποιηταὶ καὶ σοφοὶ κατὰ τὴν διάθεσιν ἀποδιδόασιν τὸ φρονεῖν)

The pointing to original contributions is of course related to the characteristic already stressed by Diels,¹⁵ viz. that Theophrastus marks original (*idia*) and common elements in the views at issue.¹⁶ But the perspective is a broader one: the *endoxa* are here discussed as to their ‘influence’ within a group exactly in the way the definition of *Top.* A 1 describes it. The problematic character of certain views is related to their degree of originality.¹⁷ Disagreement divides and demands a settlement. It can mean one against many or all; still, individual views are not untrue *per se*.¹⁸ To understand the problems in a field, then, the points of disagreement are extremely valuable.¹⁹ The weighing of the arguments takes into account the majority criterion: when most or all hold the same view it has a *prima facie* claim to being true and cannot be neglected. On the other hand, a view of *one* person may at times outweigh that of the majority; and the views of the unqualified majority (οἱ πολλοί) seem to have a negative ring to them (e.g. *DS* 36).

¹⁵ Diels (1887) 9.

¹⁶ Theophrastus does not use *koina* (Diels’ term for “common aspects”).

¹⁷ We may call to mind the definition of the πρόβλημα in *Top.* A 11.104b1-5 ἐστὶ διαλεκτικὸν θεώρημα ... περὶ οὗ ἢ οὐδετέρως δοξάζουσιν ἢ ἐναντίως οἱ πολλοὶ τοῖς σοφοῖς ἢ οἱ σοφοὶ τοῖς πολλοῖς ἢ ἑκάτεροι αὐτοὶ ἑαυτοῖς.

¹⁸ In the *Top.* Aristotle states that one should not take seriously the view of just anyone (τοῦ τυχόντος, 104b22-24), but that one should consider the views that seem paradoxical and still have some justification (διὰ τὸ λόγον ἔχειν, *Top.* A 11.104b28; A 14.105b17-18; cf. *DS* 31).

¹⁹ *Metaph.* B, 995a26-b7.

These features in the approach of Theophrastus are clearly indications of dialectical standards. The dominant role of the *endoxa* of the *sophoi* and the way in which they are treated are significant.

The following cases throw further light on the role of *endoxa* from different angles. The majority of the general public is a pejorative element in the argument at *DS* 36, 37 (οἱ πολλοί) used to discredit the view of Anaxagoras. At *DS* 55, 57 Democritus' view is set off against "the other thinkers" (τοῖς ἄλλοις) or against "a majority" (57 τοῖς πλείστοις). Then there are examples which concern 'attempts' to relate views to each other — very much like the dialectical approach, marking dissent and approval, e.g. *DS* 70, διὰ τὸ μὴ ταῦτὰ πᾶσι φαίνεσθαι, οὐδὲ ... ὁμοδοξοῦσι ... φαίνεται πᾶσιν; *DS* 79 οἱ ἄλλοι; 82 δοκεῖ ἅπασιν).²⁰

Numerous cases of the word δοκεῖ — often the mark of a dialectical discussion (cf. Ch. 2, n. 35) — can be mentioned, since the term does not of course always express Theophrastus' commitment. We should distinguish generally accepted views from clear Peripatetic convictions, e.g.:

- *DS* 20 effluence only from the element fire, not from the others (Ar. *De caelo* 293a30f. and, Theophr. *De ign.* 1-3);
- *DS* 31 alteration is held to be caused by opposites; *DS* 34 "it would seem to be essential to keener perception that minute objects should not escape it" (cf. above Ch. 3, p. 78).

Interestingly, the term has a higher frequency in the passages on Plato (*DS* 87-92, a point not noted in Ch. 4). Against Plato's account of softness (*DS* 87) Theophrastus places an *endoxon* (cf. *Meteor.* IV), as he does with heaviness (*DS* 88); as to the kinds of smell and tastes (*DS* 90) his objection is based on a consideration which has wider support — the expression δόξειεν (the *urbane optative* very common on this period) is merely a stylistic variation of δοκεῖ. Finally, the view that there is exhalation of air is considered commonly accepted (σχεδὸν ὁμολογεῖται); here the formulation points to Theophrastus' commitment. The frequent use of these terms may indicate the stronger animosity between the views, perhaps because Plato and Theophrastus are so close in time.

²⁰ Cf. Anaxagoras *DS* 31, Democritus *DS* 71.

[iii] *Arguments Related to Coherence and Consistency*

The evaluations of Theophrastus constitute an extended exercise in testing the consistent applications of basic assumptions. One might also say: in testing coherence. Consistency with the facts is also an important demand. Theophrastus tries to spell out the implications of certain statements or to point to defects. In each case contradictions may arise. This is a procedure to be compared with Plato's so-called 'straw-man technique' which he applied in the early dialogues: setting up a point for the sake of the argument and taking it down again. No doubt we have here a clash of different levels of 'theorizing' in which Theophrastus confronts the Presocratic level (which is rudimentary) with his own theory, which has developed further and is more rigorous.

The vocabulary again provides sufficient indication of this characteristic: contradictions occur in the case of (a) two contradictory propositions explicitly stated, or (b) because of implications, or (c) by contrasting a statement with the facts ('empirical feedback'). The following examples corresponding to these 'classes' may be adduced:

(a) Self-contradiction

DS 13 ἔτι δὲ πότερον οἱ πόροι κενοὶ ἢ πλήρεις; εἰ μὲν γὰρ κενοί, συμβαίνει διαφωνεῖν ἑαυτῷ, φησὶ γὰρ ὅλως οὐκ εἶναι κενόν· εἰ δὲ πλήρεις, αἰεὶ ἂν αἰσθάνοιτο τὰ ζῶα.

"Empedocles is contradicting himself (διαφωνεῖν²¹ ἑαυτῷ)". Here a lack of clarity in meaning is used to extract an implicit inconsistency from the argumentation.

(b) by implication

DS 51 Democritus uses an analogy to explain the imprinting of *eidola* onto the air (Dem. 1.a); this is considered to be in conflict with earlier statements: δεῖ γὰρ ἔχειν πυκνότητα καὶ μὴ "θρύπτεσθαι" τὸ τυπούμενον, ὥσπερ καὶ αὐτὸς λέγει παραβάλλον τοιαύτην εἶναι τὴν ἐντύπωσιν, οἷον εἰ ἐκμάξιας εἰς κηρόν. "the thing imprinted should have a certain consistence and not 'be fragile', as he also himself says illustrating that the imprint is of such a nature in the same way as if one would impress something in wax."

DS 53: A very clever implication of Democritus' idea of the working of sight drives home the criticism Theophrastus aims at, namely that the notion of effluences is unacceptable: "moreover, why does not each person see himself?" (διὰ τί ποτε ἕκαστος αὐτὸς αὐτὸν οὐχ ὁρᾷ;).²²

²¹ This expression, later a technical term among the sceptics, only here. See also Ch.5, n.65.

²² One is immediately reminded of Aristotle's objection on this issue, when he

(c) by empirical feedback

DS 31: in the case of Anaxagoras experience, or the *facts*, are against his contention that we perceive always with pain: οὐτ' ἐκ τῆς χρήσεως ὁμολογεῖται.

In an earlier chapter we already pointed out (Ch. 4, n.89) that consistency is mandatory where a class of similar things is concerned (i.e. a genus).²³ That these are formal patterns which have their origin in Aristotle's *Top.* can be easily shown by referring to *Top.* Δ 3. Of course the major offence against coherence is to be neglectful of one's own basic principle (on which see Ch. 6.2.2).

The number of examples could be augmented further. It shows the intrinsic value of the dialectical training, viz. the insight into consistency, in the service of a philosophical investigation.

Another frequent term, ἄτοπος, is also connected to the demand for consistency and there is a link with ἀδύνατα. LeBlond already pointed this out for Aristotle, noting that the term is not decisive in refutations, as it indicates a certain degree of disorder and a source of impossible consequences.²⁴ From this it follows that we should rather think of its meaning in terms of coherence (compare ἀνὰ λόγον, DS 84, 85 and κατὰ λόγον, DS 58, 62).²⁵ Some significant examples may illustrate its basic use.

(i) DS 23 τὸ δὲ δὴ τῷ αἵματι φρονεῖν καὶ παντελῶς ἄτοπον· πολλὰ γὰρ τῶν ζώων ἄναιμα. (on Empedocles) "it is indeed *counter-intuitive* to suppose that we think with the blood, for many animals are bloodless ...".

(ii) DS 24 ἄτοπον δὲ καὶ τὸ τὰς δυνάμεις ἐκάστοις ἐγγίνεσθαι διὰ τὴν ἐν τοῖς μορίοις τοῦ αἵματος σύγκρασιν, ὡς ἡ τὴν γλῶτταν αἰτίαν τοῦ εἶναι λέγειν (οὐδὲν ἢ) τὰς χεῖρας τοῦ δημιουργεῖν, ἀλλ' οὐκ ὄργανον τὰξιν ἔχοντα (on Empedocles) "odd too is the idea that the individual

asks why the eye does not see itself (*De sensu* 437a28f.). This shows that Theophrastus felt free to find appropriate refutations whenever he could.

²³ In the first case (Plato) *genos* is explicitly mentioned. Note that the difference between *morphê* and *schêma* is merely verbal (Peripatetic vs. Democritean).

²⁴ LeBlond (1938) 46, who translates ἄτοπος with "déplacé, déraisonnable, absurde". On degrees he refers to *Top.* 150a7, 10 (σφόδρα ἄτοπον, παντελῶς ἄτοπον). This point is also discussed in Baltussen (1998).

²⁵ In the light of its etymology ἄτοπος aptly describes the idea of something "out of place", and therefore not acceptable. See for its nominal form DS 21, 23, 24 (Empedocles); 54 (2x), 57, 68, 69, 82 (Democritus); and for its adverbial form DS (86), 87, 91 (Plato) and DS 18, 21.

abilities (of men) are due to the composition of the blood in the bodily parts, as if the tongue were the cause of speaking well, and the hand that of craftsmanship, as if these didn't have the rank of (mere) instrument.

(iii) *DS* 54 ἐπεὶ τό γε τὸν ἥλιον ἀπωθοῦντα ἀφ' ἑαυτοῦ καὶ ἀποπληττόμενον πυκνοῦν τὸν ἀέρα, καθάπερ φησὶν, ἄτοπον· (on Democritus) “for the idea that the sun ‘drives the air from itself and, thus repelling, condenses it’, as he says — this is *strange*”.

(iv) *DS* 57 ἄτοπον δὲ καὶ ἴδιον (τὸ) κατὰ πᾶν τὸ σῶμα τὸν ψόφον εἰσιέναι (on Democritus) “it is uncalled for and unparalleled (to assert) that sound goes through the whole body”.

(v) *DS* 91 ἄτοπον δὲ τὸ μόνην ταύτην ἀποδιδόναι τῶν αἰσθήσεων· (on Plato) “It is *odd* to define only this single one of the senses”.

In these cases (which seem to fit in with the findings of LeBlond) the term has the same function, viz. to emphasize a lack of consistency with the facts. Consistency with the facts is necessary to meet the expectations created by a general rule.²⁶ The first example also shows that ἄτοπος admits of degrees. The second shows how one counter-example is considered to undermine the general assumption regarding the powers due to the composition of the blood. In the third Theophrastus refers to Democritus' own theory, to which he is opposed.²⁷ In the next example the relation of the *pathos* of sound to the whole body is questioned, the objection being that, even if the whole body is affected somehow, the act of hearing still is limited to the ear. The fifth example probably alludes to the remark in *DS* 5 (and to the implicit demand present in all criticisms) that a theory of perception must explain all the senses.²⁸

[iv] *Universal Validity*

The next type of argument is related to the previous demand for coherence and consistency: universal validity. It seems that against

²⁶ Admittedly not all cases fit into this interpretation of the term. In *DS* 21 it rather concerns Empedocles' unjust satisfaction with the explanation he gives: “Again with regard to hearing it is *strange* of him to imagine that he has really explained how creatures hear, when he has ascribed the process to internal sounds ...” (ἀλλὰ περὶ μὲν τὴν ἀκοὴν ὅταν ἀποδῶ τοῖς ἔσωθεν γίνεσθαι ψόφοις, ἄτοπον τὸ οἶεσθαι δῆλον εἶναι πῶς ἀκούουσιν, ἔνδον ποιήσαντα ψόφον).

²⁷ For his own views on the sun, see *De igne* 44 and Steinmetz (1964) 161 ff.

²⁸ On the remark in *DS* 5 see Ch. 4, p. 104.

Theophrastus' searching criticism based on more elaborate theoretical and empirical considerations most claims of universal validity in the Presocratic accounts cannot survive. In many cases Theophrastus points to exceptions that were neglected or not explained properly, which almost always amounts to saying that they over-generalized their statements. Thus he blames Anaxagoras for having used too narrow a principle in an attempt to explain all sense perception (*DS* 33). Similarly in the case of *emphasis* the 'hard-eyed animals' form an exception, to which Anaxagoras' explanation does not apply.

Other arguments which turn on the distinction general-specific can be recognized by the word ἀπλῶς (cf. also Ch.5, n.184 and text thereto). Interestingly, there also seems to be a difference in use between the reports and the criticisms.

In his *reports* Theophrastus uses it to give a general statement or to generalize a statement, e.g. when paraphrasing Anaxagoras' theory, *DS* 29 ἀπλῶς εἶναι κατὰ τὸ μέγεθος τὴν αἴσθησιν; or in *DS* 49 where Democritus' basic principle of perception is reported (here the technical term *alloiousthai* occurs when Theophrastus is trying to find the *rationale* of Democritus' explanation, i.e. whether perception is by similars or by opposites). He concludes:

if perception depends on similarity insofar as he ascribes the perceptive process and, *in a word*, alteration to the fact that something is acted upon, things that are not the same cannot, as he says, be acted upon (πάλιν δ' (εἰ) τὸ μὲν αἰσθάνεσθαι καὶ ἀπλῶς ἀλλοιοῦσθαι (τῷ) πάσχειν, ἀδύνατον δέ, φησί, τὰ μὴ ταῦτὰ πάσχειν ...)

compare *DS* 59 καὶ γὰρ Ἀναξαγόρας ἀπλῶς εἶρηκε περὶ αὐτῶν 'for A. also spoke simply about these' and *DS* 62 ἐν ἄλλοις δὲ κοῦφον εἶναί φησιν ἀπλῶς τὸ λεπτόν [...] πεπυκνώσθαι δὲ κατὰ ἔνια, ἀπλῶς δὲ πλεόν ἔχειν κενόν.).

In his *evaluations*, however, he uses it to point to (a defect in) the general applicability of a principle:

DS 27 ἀπλῶς δὲ τὴν νύκτα μᾶλλον ὁμόχρων εἶναι τοῖς ὀφθαλμοῖς, "but in general the night is rather of the same hue as the eyes"

DS 32 ἀπλῶς δ' εἴπερ μὴδὲ τὸ διανοεῖσθαι μετὰ λύπης, οὐδὲ τὸ αἰσθάνεσθαι, "in a word, if understanding does not entail pain, perceiving does not either"

DS 64 ἀπλῶς μὲν οὖν περὶ τῶν αἰσθητῶν οὕτω δεῖν ὑπολαμβάνειν, "in general regarding the perceptibles one must entertain these assumptions"

DS 69 ἀπλῶς δὲ τὸ μὲν σχῆμα καθ' αὐτό ἐστι ..., “in general the <atomic> figure has an independent existence”

DS 79 ἐνδέχεται γὰρ καὶ τὰ περιφερῇ καὶ ἀπλῶς πάντα ἐπισκιάζειν ἑαυτοῖς, “for it is possible for round shapes and in general any shape to cast a shadow on each other”

DS 88 τὸ βαρὺ καὶ κοῦφον οὐχ ἀπλῶς, ἀλλ' ἐπὶ τῶν γεωδῶν ἀφώρικε, “the heavy and light he did not define in a general way, but in respect of the earthy things” [cf. 89 ταῦτα δὲ πάντα συμβαίνει διὰ τὸ μὴ ἀπλῶς ... ἀφορίζειν].²⁹

A good parallel for this theoretical motif based on ‘conceptual’ or ‘temporal’ universality is Aristotle’s remark against Democritus (*Phys.* Θ 1.252a32 ff.):

ὅλως δὲ τὸ νομίζειν ... οὐκ ὀρθῶς, ... ἐπὶ τινων ὀρθῶς, ὅτι δ' ἐπὶ πάντων οὐκ ὀρθῶς “while his theory is right insofar as it is applied to certain individual cases, he is wrong in making it of universal application” (Rev. Oxf. Tr.)³⁰

It would seem that these features of his argumentative approach tie in well with those mentioned above: they reveal the wider scope and broader theoretical framework used by Theophrastus as compared to the predecessors.

[v] *Causes*

The importance of causes for Aristotle and Theophrastus in explaining a certain state of affairs is well-known. Among the basic questions of science explained in *APost* B.1 is the διότι.³¹

In *DS* Theophrastus discusses causes several times. In the question form we find διὰ τί (*DS* 40) as equivalent to the διότι. Against Empedocles he points out that he did not give a cause (or: determining factor) for smelling but an *accidens* (see p. 164f., no. 13; cf. no. 4) — the technical phrase κατὰ συμβεβηκός gives it away (see *Top.* A.5-9, B-Γ esp. 110b23). He may also state that a wrong cause has been given

²⁹ Compare also the phrase in *DS* 21 οὐ κοινὴν αἰτίαν ἀπέδωκεν, and 91 οὔτε γὰρ κοινὸς ἅπασιν.

³⁰ The underlying thought of Theophrastus’ criticism may have originated in the concept of *genos*, in which the central idea is the degree of extension or applicability (“grado di estensione”, Berti, 1977: 183). I shall go into this point somewhat further below (*sub* [vi] no. 1). For the anticipation of the concept of subordination in the *Top.*, see Kneale & Kneale (1986) 36.

³¹ See Mansfeld (1990) 3193 ff. and above Ch. 3, p. 87.

(Empedocles no. 15 and Diogenes no. 3; cf. *Soph.El.* 5, 167b21-38). Democritus is said to have overlooked the need for a cause which would explain the turning of the air imprint (see p. 187, no. 2 (b)), but also to have neglected the fact that a common cause must be assumed for tastes (*DS* 71). In the last paragraph Theophrastus also accuses Plato of not having stated the cause of sensation despite the latter's attempt to do so (*DS* 91).

[vi] 'Topical' Cases

The last class of arguments concerns cases which can be related directly to a *topos* in the Aristotelian *Topics*. I call these 'topical examples', with the restriction, of course, that in practice only a minority of cases will resemble a *topos* exactly in the form it was prescribed for 'gymnastic' purposes. They are especially important because they provide some insight into the technical level of the criticisms and may thus contribute to determining in what sense Theophrastus' argumentation can be called dialectical.

(1) The *genos*, one of the four predicables, is defined as the 'common name of things belonging to one class'. Things belonging to one class should be treated in the same way. Within a class there exist contraries (contrary species) which constitute its extremes (e.g. black and white for colours). Concerning contraries within a genus certain rules are valid e.g. "contraries must exist within the same genus, if and when there is no opposite to the genus" (*Top.* Δ 3). The demand to treat things belonging to the same class in the same way is at the back of several objections raised by Theophrastus. We may first refer to two basic passages in the *Topics* and compare them to *DS*:

A genus is that which is predicated in the category of essence of several things which are also different in species.³²

also we should see whether there is a contrary to the species [...] First then whether the contrary is in the same genus as well, without there being an opposite genus. For the contrary must be in the same genus when there is no opposite genus. (*Top.* Δ 3.123b1 ff. "Ἐτι ἂν ἡ ἐναντίον τι τῷ εἶδει, σκοπεῖν. [...] πρῶτον μὲν εἰ ἐν τῷ αὐτῷ γένει καὶ τὸ

³² *Top.* A 5.102a31-32 γένος δ' ἐστὶ τό κατὰ πλείονων καὶ διαφερόντων τῷ εἶδει ἐν τῷ τί ἐστι κατηγορούμενον.

ἐναντίον, μὴ ὄντος ἐναντίου τῷ γένει. δεῖ γὰρ τὰ ἐναντία ἐν τῷ αὐτῷ γένει εἶναι, ἂν μὴδὲν ἐναντίον τῷ γένει ᾗ.)³³

This rule can clearly be seen at work in *DS* 82:

If there is an opposite to red, ... it must, as in the case of black (compared) to white, have an opposite form. If there is no opposite, one might wonder about that, viz. that he does not make the principles opposites; for every one thinks they are. (χρῆν ... καὶ εἰ μὲν ἐναντίον τῷ ἐρυθρῷ, καθάπερ τὸ μέλαν τῷ λευκῷ, τὴν ἐναντίαν ἔχειν μορφήν. εἰ δὲ μὴ ἐναντίον, αὐτὸ τοῦτ' ἂν τις θαυμάσειεν, ὅτι τὰς ἀρχὰς οὐκ ἐναντίας ποιεῖ· δοκεῖ γὰρ ἅπασιν οὕτως.)³⁴

Theophrastus is using opposites as a model for the explanations of colors, and black and white seem to be the basic pair. Note that this time the point is shored up by the *endoxic* aspect of general agreement.

(2) Similar cases are found. Both times the *genos* is explicitly referred to, first when Plato's view on defining the hot and cold is reviewed in *DS* 87:

This is awkward as well: first of all the fact that he [=Plato] does not give a similar account of all nor of the things belonging to the same *genos*. For while defining the hot through (its) form he did not do likewise with the cold.

Ἄτοπον δὲ καὶ τοῦτο· πρῶτον μὲν τὸ μὴ πάντα ὁμοίως ἀποδοῦναι μὴδὲ ὅσα τοῦ αὐτοῦ γένους. ὀρίσας γὰρ τὸ θερμὸν σχήματι τὸ ψυχρὸν οὐχ ὁσαύτως ἀπέδωκεν.

and (3) again, when it concerns the formulation of an explanation (regarding the sensitivity of the senses) in *DS* 35:

About this one might have doubts, as was said before, whether this should be formulated in such a manner: for *in cases of like character* (ἐν τοῖς ὁμοίοις γένεσιν) things are not defined according to size.³⁵

τοῦτο μὲν οὖν, ὥσπερ ἐλέχθη, διαπορήσειεν ἂν τις, εἰ ἄρα καὶ δεῖ λέγειν οὕτως· οὐ γὰρ ἐν τοῖς ὁμοίοις γένεσιν ἀφώρισται κατὰ τὸ μέγεθος

These instances show that the general idea behind the criticism is guided by the rules on the *genos*.³⁶ It is related to the applicability of a

³³ Cf. Theophr. fr. 127A *FHSG*.

³⁴ It should be noted that in this passage alone there are three dialectical features to be recognised: *idion*, *genos*, and 'endoxic context'. On *genos* cf. McDiarmid (1959b) 64. See also Ch. 5, n.49.

³⁵ These two cases are the only ones in the whole text where the word γένος actually occurs.

³⁶ In a less explicit manner but still sufficiently clear the same thought of generic

generalising statement, and based upon the appropriate demarcation of a class of things. That this could be used as a critical argument is mentioned at *Top.* Δ 3.124a1-2 (ἀναίρουντι κτλ.).

(4) A further example of a *topos* at the back of an argument is that of the ἴδιον or “distinctive feature”, another of the predicables (*Top.* A 5.102a31f.). The *idion* states a characteristic that is peculiar to the subject, yet does not belong to its essence (i.e. does not occur in the definition). For instance, if we define ‘man’ as “being *capable of learning grammar*” (γραμματικῆς δεκτικόν) we state an *idion* of man. Because of this close relationship with its subject, an *idion* can be predicated convertibly: e.g. “if a certain being is capable of learning grammar, it is a man”. In two cases we may reasonably assume that the same concept of *idion* is being used:

Diogenes fails to make it a *distinctive feature* of living beings that they can perceive and think (*DS* 46, cf. *Top.* E 2.130b20-21; 3.132b19-21);

The reproach of not having given a distinctive feature may take its cue from a remark in the *Top.* E 5.134a26 ff. that “with some of the distinctive features which are valid most of the time the mistake may occur when it has not been clarified (παρὰ τὸ μὴ διορίζεσθαι) in what way and of what things it is a distinctive feature”. The exemplary function of this remark may perhaps gain in importance from the fact that there are not very many places in the *Top.* where Aristotle discusses *mistakes* that might be made.³⁷

(5) More clearly expressed is the instance where a distinction is needed to discern opposite concepts. According to Theophrastus, Democritus defines green by the (common features) solid and void only (μόνον ἐκ τοῦ στερεοῦ καὶ τοῦ κενοῦ, κοινὰ γὰρ ταῦτά γε πάντων), not by form (σχῆμα). The argument is this (*DS* 82):

χρῆν δ' ὥσπερ κἀν τοῖς ἄλλοις ἰδιόν τι ποιῆσαι, καὶ εἰ μὲν ἐναντίον τῷ ἐρυθρῷ, καθάπερ τὸ μέλαν τῷ λευκῷ, τὴν ἐναντίαν ἔχειν μορφήν· εἰ δὲ μὴ ἐναντίον, αὐτὸ τοῦτ' ἂν τις θαυμάσειεν, ὅτι τὰς ἀρχὰς οὐκ ἐναντίας ποιεῖ· δοκεῖ γὰρ ἐν πᾶσιν οὕτω.

‘belonging to’ (a class, area etc.) occurs at *DS* 72: καὶ πρὸς τούτοις ὁμοίως ἐπὶ πάντων ἀποδοῦναι τῶν διὰ τῆς ἀφῆς καὶ μὴ μόνον τὰ περὶ γεῦσιν.

³⁷ For ἀμαρτία see *Top.* 109a27 (two kinds in problems); 126-7 (definition); 139b9 (incorrectness in definition); 142b23 (id.); 147b10 (in opposites); 148a5 (*sterêsis*); 149a5 (obscure names); 159a23 (what to posit first); 162a24 (redundancy); 162b17 (fallacy); 163a25 (the conclusion).

He should have attributed it [= the colour green] a *distinctive feature* as in the case of the other colours; if on the one hand it is opposite to red — in the same way as black is <opposed> to white — it should possess an opposite form. If on the other it is not, one may well wonder that he does not regard principles as opposites. It is generally agreed (δοκεῖ γὰρ ἅπασιν³⁸) that they are.

The first point makes use of the pattern common-specific: Theophrastus rightly objects that green needs further differentiation from the characteristics common to all colours. The disjunctive argument (εἰ μὲν ..., εἰ δὲ μὴ ...) turns on the assumption that, in general, principles are opposites, and therefore black and white are opposites. This proposition needs no argument because it is (considered) a common view (cf. *DS* 59). Theophrastus then elaborates on the (implicit) question “is green opposite to red or not?” If it is, then the opposite form is required; if not, it goes against the *communis opinio*. It is clear that Democritus loses either way.

(6) Next, a *topos* of ‘more or less’ is probably behind the argument against Anaxagoras on the power of eyesight (*DS* 34).

Top. B 10-11 “(one must derive material) from the greater and the lesser degrees (114b36-115a14)

DS 34 “we might reasonably suppose that an animal with power to discern smaller objects could also discern the larger. Indeed it is held (δοκεῖ) that in the case of some senses small animals are superior (βέλτιον) to large ones, so that in this respect the perceptive power of larger animals is inferior (χείρων).”

The argument³⁹ is turned upside down and the opposite conclusion is reached: whereas Anaxagoras maintains that large animals can perceive better, Theophrastus argues that small animals have keener senses.

This point of gradation is perhaps related to *Top.* 119a12-b30,⁴⁰ which speaks of the “*topos* from more or less or in a like manner” (119b17). It concerns a qualitative characterisation of a feature. Similar cases are perhaps

³⁸ Reading ἅπασιν (DK, cf. *DG* 524 *ad loc.*) for ἐν πᾶσιν of PF (cf. Appendix A).

³⁹ See p. 189, (no. 4.a-b).

⁴⁰ Cf. 137b14 ff., 146a11 ff. The Academic provenance of the *topos* of ‘more and less’, which is used frequently by both Aristotle (biology) and Theophrastus (botany), is discussed by Krämer (1968) 308 ff. Compare fr. 70 ff. and 275 *FHSG*.

(7) *DS* 18 (Empedocles)

ἀτόπως δὲ καὶ ὅτι τὰ μὲν ἡμέρας, τὰ δὲ νύκτωρ μᾶλλον ὁρᾷ· τὸ γὰρ ἔλαττον πῦρ ὑπὸ τοῦ πλείονος φθείρεται, διὸ καὶ πρὸς τὸν ἥλιον καὶ ὅλως τὸ καθαρὸν οὐ δυνάμεθ' ἀντιβλέπειν. ὥστε ὅσοις ἐνδεέστερον τὸ φῶς, ἥττον ἐχρῆν ὁρᾶν μεθ' ἡμέραν: "Peculiar also is his view that certain animals see better by day, and others by night; for the weaker fire is extinguished by the stronger ... accordingly animals with less light in their eyes ought to have poorer vision by day."

(8) *DS* 51 (Democritus)

Πρῶτον μὲν οὖν ἄτοπος ἡ ἀποτύπωσις ἢ ἐν τῷ ἀέρι. δεῖ γὰρ ἔχειν πυκνότητα καὶ μὴ "θρύπτεσθαι" τὸ τυπούμενον, ὥσπερ καὶ αὐτὸς λέγει παραβάλλων τοιαύτην εἶναι τὴν ἐντύπωσιν, οἷον εἰ ἐκμάξειας εἰς κηρόν. ἔπειτα μᾶλλον ἐν ὕδατι τυποῦσθαι δυνατόν, ὅσῳ πυκνότερον ἥττον δὲ ὁρᾶται, καίτοι προσῆκε μᾶλλον. "First of all the imprint in the air is preposterous, for there is a need for consistence and for the object which is informed not to be fragile, as he himself also states by comparing such an imprint as if one were making an impression into wax; moreover an impression can occur better in water, to the degree that it is more dense. but we see less well (in water) even if more appropriate."

(9) *DS* 70 (Democritus)

εἰκὸς γὰρ τὸ βέλτιον τοῦ χείρονος καὶ τὸ ὑγιαῖνον τοῦ κάμνοντος· κατὰ φύσιν γὰρ μᾶλλον. It is likely that the better will surpass the worse and the healthy the sick <in attaining the truth>. For that is more according to nature.

This argument appeals to probability and is meant to counter the apparent contradiction in Democritus with regard to the reliability of the senses (*DS* 69). According to Theophrastus he states that, on the one hand, the form determines the effect in us, but that, on the other, men in different dispositions receive different impressions. As a result no one can know the true nature of things better than another. I note that objections employing probability are found in *Top.* Γ-Δ, e.g. 117b10-14.

1.2. *Non Standard Arguments*

That Theophrastus is not mechanically bringing forward the same objection against the same point but applying his arguments *selectively* has already become apparent from our discussion in the previous

chapter.⁴¹ The most significant cases may be mentioned here in order to show that he is not routinely applying standard objections. Whether this approach is intentional cannot be established.

The first case concerns the criticism of Empedocles' view on vision. Empedocles spoke of two kinds of fire (see p. 158), to which Theophrastus objected that the distinguishing feature necessary to explain their different functions was lacking. However, Plato adopted this idea almost exactly at *Tim.* 45b, but against him the objection is not used presumably because Plato *explained* the difference.⁴²

Secondly, we see that Democritus is criticised for the notion that the perceptive affections are spread all over the body, a statement which makes Theophrastus infer that the whole body actually perceives (*DS* 57). He could have raised the same point against Plato *Tim.* 45d where it is said that the affections caused by movements from outside pass through the *whole body*. But then again Plato stated his doctrine more carefully by indicating that the sensitive part of the soul perceives them (a restriction Democritus did not formulate). [ch.5 n177: the criticism of Aristotle against "Democritus and most *physiologoi*" (*De sensu* 442a29-b1) is not repeated (*DS* 56, but cf. *DS* 58)]

Thirdly, when discussing the imprint of images in the air the focus is on the characteristics of the material (dense, mouldable). But with Diogenes it is rather the reflection that is at the centre of his critique.

Finally, whereas the remark in Anaxagoras on the contrasting colours (*DS* 27, 37) is regarded as an illustration of the contrast principle, a similar remark from Diogenes (*DS* 42) is not used to decide upon the question regarding the basic principle (left undecided in *DS* 39).

Now that we have also shown that detailed points of argument have their origin in specific guidelines of the *Topics* Theophrastus' approach can be characterised in broader terms. Basically three important modes of argumentation, which may be traced back to general lines of approach in Aristotle's *Topics*, can be detected in the criticisms. A fourth aspect concerning techniques of presentation comes from the field of *Rhetoric*. These sum up sufficiently Theophrastus' general approach as he must have intended it to be:

⁴¹ See Ch. 5.3-4. For his method of selection concerning Plato see Ch. 4.5.

⁴² On the Empedoclean elements in the *Timaeus* see Hershbell (1974).

(1) he is exploring the completeness of the 'theories' under discussion, be it linguistic or conceptual clarity, or the way in which their set of views may be regarded as a theoretical construct.

(2) he seems to construct more than one argument against one particular focal point. Thus he formulates a variety of objections which reflect the different angles from which a certain point may be viewed. We may note that Aristotle gave the advice to do this as a preparation for a debate and he himself seems to have used it regularly.⁴³

(3) he is trying to deduce the (logical) consequences from the views under examination in order to test the theories at issue as to their scope and credibility. The clearest indications for this are the side-remarks in *DS* 4 and 29 discussed above. In the first he speaks of the *implications* which remain undeveloped by his basic assumption (τὰ συμβαίνοντα δυσχερῇ διὰ τὴν ὑπόληψιν, on Parmenides), and in the second of the logical consequence of a hypothesis (ἄπασαν δ' αἰσθησιν μετὰ λύπης, ὅπερ ἂν δόξειεν ἀκόλουθον εἶναι τῇ ὑποθέσει, on Anaxagoras). By making full use of the statements he feels free to develop the implications and lead them into contradiction.

The first point represents the demand for consistency which was, as we saw, greatly systematized by the dialectical training, in particular through the role of the answerer.⁴⁴

The second point reflects the habit of collecting many different arguments for training and didactical purposes. It produces a great variety in arguments and enhances the knowledge of different points of views. Collections of such *refutations* may very well have existed too, since Aristotle recommended collecting them.⁴⁵ This is most clearly expressed in *Top.* Θ 14.163a36-b16, 164a3f.:

πρὸς ἅπασαν τε θέσιν, καὶ ὅτι οὕτως καὶ ὅτι οὐχ οὕτως, τὸ ἐπιχείρημα σκεπτέον [...] παράλληλά τε παραβάλλειν ἐκλέγοντα πρὸς τὴν αὐτὴν θέσιν ἐπιχειρήματα· τοῦτο γὰρ πρὸς τε τὸ βιάζεσθαι πολλὴν εὐπορίαν ποιεῖ καὶ πρὸς τὸ ἐλέγχειν μεγάλην ἔχει βοήθειαν, ὅταν εὐπορῇ τις καὶ ὅτι

⁴³ For his advice see e.g. Ch. 2, n. 12. For its application see Moraux (1965) [see Ch. 2, n. 33] and Schickert (1977) 38 ff. It could go back to the advice to collect *objections* to be prepared in debate (*Top.* Θ 14.164a3 δει δὲ καὶ τὰς ἀπομνημονεύσεις καθόλου ποιεῖσθαι τῶν λόγων (the crucial term is rare, cf. Plut. 2.44e).

⁴⁴ Cf. *Top.* Γ 2.117a11 ff. and also *Soph.El.* 12, 174b5-7, εἰς παράδοξα and *Soph.El.* 165a25 ff. (quoted at the start of Ch. 5.3).

⁴⁵ We may compare Theophrastus' works listed in D.L. e.g. V 43 ἐπιχειρημάτων α'-ιη' (cf. V.49), V 43 ἐνστάσεων α'-γ', V 49 θέσεις γ'; cf. also V 42 πρὸς Ἀναξαγόραν α', V 46 [= Plut., *Adv. Colot.* 1115A] πρὸς τοὺς φυσικοὺς α'.

οὕτως καὶ ὅτι οὐχ οὕτως (πρὸς τὰ ἐναντία γὰρ συμβαίνει ποιεῖσθαι τὴν φυλακὴν). πρὸς τε γνῶσιν καὶ τὴν κατὰ φιλοσοφίαν φρόνησιν τὸ δύνασθαι συννοῶν καὶ συνεωρακέναι τὰ ἀφ' ἑκατέρας συμβαίνοντα τῆς ὑποθέσεως οὐ μικρὸν ὄργανον

one should investigate against every thesis the objection — both that it is the case and that it isn't [...] and put them side by side while selecting the attacks against the same thesis. for this <approach> provides great expedience for putting pressure on the opponent as well as has great utility for refuting, whenever one is equipped to decide whether it is the case or not (since it brings along a defence against opposites). For knowledge and the understanding in accordance with philosophy it is no mean instrument to be able to oversee and *have overseen* the implications of a hypothesis in both directions.

I submit that this could explain the many cases where a host of objections is brought against a position in certain places.

(4) Another aspect can be mentioned, or so I believe, pertaining to presentation and certain tactics in refutation. In the chapter 'on arguments' in *Rhet.* Γ 17 refutative *enthymemes* are presented as a more popular argument form than demonstrative ones because "their logical cogency is more striking: the facts about two opposites always stand out clearly when the two are put side by side" (1418b2-4, Rev. Oxf. Tr.). Putting side by side things in order to clarify matters is advocated by Aristotle, in the same way as he did in his *Topics* (quoted above). Moreover, the *Rhetoric* passage contains a further interesting remark on the order of exposition regarding positive argumentation and refutation (*ibid.* 5 ff.):

The reply to the opponent is not a separate division of the speech but part of the arguments ... if you are the first speaker you should put your arguments down first and then meet the arguments on the other side by refuting them and pulling them to pieces. (...) If you speak later, you must <answer> first, by means of refutation and counter-deduction.

Though the remark pertains to political and juridical speaking, the context emphasizes that dialectic and rhetoric are very much akin,⁴⁶ so it is natural to assume that these prescriptions must have a wider application than stated here. If this is correct, simultaneous use of

⁴⁶ Compare a little further in the Greek text (*Rhet.* 1419a23-24): "[replying] as well as the various means of refutation may be regarded as known to us from the *Top.*"

rhetorico-dialectical arguments, or rather their use in variable functions, can be taken for granted.

The foregoing classification of specific topical examples was drawn up to obtain more insight into the degree to which the technical prescriptions of the *Top.* have become incorporated into Theophrastus' (so-called 'doxographic') working method (see also Baldes 1975a). I submit that in *DS* dialectical and rhetorical techniques are combined which are most suited to serve as ordering guidelines for the material under discussion. The close relation between the two fields (esp. with regard to objections, *enstaseis*) is also stressed by Aristotle.⁴⁷ From this perspective we may perhaps also explain certain terms as rhetorical qualifiers. We spoke of ἵσως⁴⁸, σχεδόν, μᾶλλον etc. as Theophrastean terminology. As natural elements of oral presentation their function was no doubt that of qualifying speech (perhaps during a lecture to add *persuasive force* to the criticisms construed in *DS*. As is well-known, *Rhet. B* contains the means of producing persuasion). Their meaning is not often as weak as it seems at first sight. This is clear in the case of σχεδόν and μᾶλλον, the former more often than not means "no doubt", whereas the second introduces a preferred option out of two possibilities.⁴⁹ In particular we should note that all cases of this type occur in the critical passages. Their absence in the reports presumably means that Theophrastus regarded the excerpting of his sources as a straightforward activity which did not require any further comment.

2. *Dialectic and Archai*

While the previous sections have shown the extent to which the argument forms in *DS* are indebted to dialectic, a more fundamental point related to the role of dialectic remains to be dealt with. In *Top. A* 2 Aristotle claims that in its most particular or appropriate function

⁴⁷ Compare the many references to the *Top.* in *Rhet. II*. 25-26 on *enstasis* (cf. *Rhet. I* 13-14; 17-18).

⁴⁸ Eight cases of ἵσως can be found; in at least four of them a view presents an alternative to the view under examination. See Ch. 3, n. 87.

⁴⁹ Such alternatives are presented sixteen times and resemble the ἵσως cases (previous note). For instance, preference is given to the contrastprinciple (*DS* 19, cf. 13), to the shape instead of the blending of the blood (*DS* 24), to commensurateness and temperament (*DS* 32) and also to the position rather than the figure as a cause of the difference of black and white (*DS* 79). See also *DS* 31, 51 and 54.

dialectic may serve as a “road to all the philosophical sciences”. As we have seen (Ch.2) this statement is not unproblematic. I will adopt a minimal interpretation by taking it at least as meaning that dialectic has a role in establishing basic starting-points for any branch of knowledge.

The question then is: was *DS* such a preliminary inquiry into *archai*? Another reason to address this question is that Usener tried to argue for its doxographical nature by pointing to certain similarities it exhibits (at least to him) with the *archai* discussion found in Simplicius’ *Commentary on Aristotle’s Physics*. Moreover, Aristotle’s use of dialectic which incorporates overviews of *doxai* into systematic inquiries makes an affirmative answer perfectly possible. If this is so, it could lead to the conclusion that *DS* forms the preparation for a more systematic treatment of perception.

2.1. Archê: Its Meaning and Use in Aristotle

In our attempt to answer the question we will be forced to make the most of meagre evidence. The term *archê* occurs only a few times in *DS* and it is used in different ways, and what’s more, one instance even seems to suggest that the discussion of *archai* should be avoided in *DS*. Our first concern is to establish what the word means and how it is used. Again we will have to consult some Aristotelian passages before Theophrastus’ use of the term can be put into perspective.

Archê is a flexible term that can refer to different things; it also is interchangeable with several other terms. Strictly speaking, Aristotle distinguishes three senses of *archê* (*Metaph.* Δ): starting-point (in time), source of motion (change, growth), and source of knowledge. *Archai* are, to put it in more technical language, primary with regard to their temporal, physical or epistemological status. In more simple terms we may say that they are primary and first (*ta prôta*, *Top.* Δ 1.121b9f., *APo* A 2.72a6-8) in relation to what things *are*, what they *become* and *how* they are *known*.⁵⁰ These different meanings were already established in the Academy.⁵¹

⁵⁰ Cf. Lumpe (1955) 112f., König (1970) 243f. The first sense need not concern us here because it is easily recognized and of little philosophical significance.

⁵¹ In *Phd.* 101d-e *archê* is used in a logical sense, as Plato compares the referring back to the *hypotheses* to ‘first hypotheses’ (τὰς ὑποθέσεις τὰς πρώτας, cf. *ibid.* 107) with the *archê* and its consequences for an argument. Thus it is used as a primary proposition (cf. Lumpe, 109 for more examples). In a more physical sense *archai* are

In its physical sense the term *archê* refers to the basic elements of the physical world (*ta hapla*). Fire, air, water and earth, are the primary stuffs that make up the objects around us. These in their turn have as principles the hot, cold, dry and wet.⁵² In the sense of cause (e.g. *Metaph.* 1013a17) *archê* is the subject of science and plays a role in demonstration (*Metaph.* B 995b7 ff., cf. 996a28). It is used in a logical sense as it refers to premisses or propositions. In the light of dialectic *archai* are to be understood as fundamental positions, basic assumptions which sustain a theory by their global validity. They are fundamental in that they constitute the formal starting-point of reasoning (*APost* B 3.90b24) about the relevant field of knowledge and provide it with coherence and an explanation.

That *archê* is a flexible term is also clear from its close relation to *hypothesis*.⁵³ The hypothesis is an initial assumption (or proposition) from which one may argue (cf. *APo* A 32.88b27 ff.). Particularly illustrative is the remark in *Top.* Θ 14.163b33 where they are practically synonymous: "it is quite difficult to have a first principle or hypothesis ready at hand".⁵⁴ Kahn has plausibly suggested that Aristotle recognizes only two kinds of (logical) principles in his *Posterior Analytics*, viz. '(1) definitions, or statements of *what X is*, and (2) *hypotheses* or assumptions *that X is*, that is to say the existence claims corresponding to the primary definitions'.⁵⁵

An important passage in which Aristotle gives a clarification of the role of the *archai* is found in *De caelo* Γ. While explaining where his predecessors went wrong in their treatment of the *archai* he states:

In fact their explanation of the phenomena is not consistent with the phenomena. And the reason is that their ultimate principles (*archas*) are wrongly assumed: they had certain predetermined views (*doxas hōrismenas*), and were resolved to *bring everything into line with them*.⁵⁶ (Rev.Oxf. Tr.)

The awareness of the relationship between basic principle and related sense objects stands out clearly here as the main reason for Aristotle's

the 'elements of the universe' as in *Tim.* 48b, στοιχεῖα τοῦ παντός (Lumpe, 110).

⁵² E.g. Arist. *PA* 648b9-10. By contrast Theophrastus states that the hot and cold are *not* principles (*De ign.* 8).

⁵³ Cf. Thomas Upton, (1985) 283-301; H.D.P. Lee (1935) 114 and 116f.

⁵⁴ Cf. also 108b8, 12f; 119b35; 158a32; *APost* 72a20-21; Theophr. *Met.* 6b18-23.

⁵⁵ Kahn (1981) 391.

⁵⁶ *De caelo* Γ 7.306a5-9. On *ibid.* B 13.293a27 which deals with the relation of *phainomena* and reasoning see Nussbaum (1986) 247.

superior sense of understanding the matter. In a very interesting and apparently casual digression he then goes on to state three fundamental remarks on principles, hypotheses and perception:

It seems that perceptible things require perceptible principles, eternal things eternal principles, corruptible things corruptible principles; and, in general, every subject matter principles homogeneous with itself. But they, owing to their love for their principles, fall into the attitude of men who undertake the defence of a position in argument. In the confidence that the principles are true they are ready to accept any consequence of their application. As though some principles did not require to be judged from their results, and particularly from their final issue! And that issue, which in the case of productive knowledge is the product, in the knowledge of nature is the phenomena always and properly given by perception.⁵⁷ (Rev.Oxf. Tr.)

Aristotle's remarks show his appreciation of coherence (and indeed elegance) in theorizing.⁵⁸ First, principles should be of the same kind as the things they are supposed to be a principle of (cf. *APost* A 9.75b37f.). Next he emphasizes that most thinkers have the wrong attitude of defending (wrong) principles obstinately — much like that of a debater who uncritically sticks to his principles. We have already seen that the clear distinction between argument and the user of the argument was also important in dialectic (Ch. 2.1). We should further note that it is stated that the principles must be judged by their *results* (κρινεῖν ἐκ τῶν ἀποβαινόντων). This passage shows up how the term 'principle' can take on different shades of meaning. The difference seems to be one of quality and dependent upon the context. *Archê* may refer to a single physical thing. But the *description* (λόγος) of its function can also be regarded as a principle, viz. a definition or postulate which in a general way describes the primary role of the *archê*. In this sense, principles may act as *premisses* in demonstration (*APost* A 2.72a7). Moreover, the comparison with the approach in debate reveals the parallel of defending a position in debate with 'holding on to principles' in philosophical investigation. Our much-discussed passage from *Top.* A 2 comes to mind here: presuppositions have no claim to truth of their own and must at times be the subject of an inquiry themselves.

⁵⁷ *De caelo* Γ 7.306a10-18. Cf. *Metaph.* B, 1000a5-9 where it is said that nobody has dealt with the question 'whether the first principles of perishable and imperishable things are different or the same'.

⁵⁸ Cf. Ferejohn (1991) 15 ff. (esp. 23-25).

It is at this point that the finding of starting-points becomes essential to philosophical reasoning.⁵⁹

Archai is commonly translated as 'principles' (which does not cover the meaning entirely). We usually take 'principle' to mean a general rule which is fundamental to an attitude or theory (i.e. it is a moral or logical rule). As we saw the term also has a more concrete meaning in Aristotle (for instance starting-point or basic constituent, element). Still, among all the different shades of meaning the basic sense of 'point of departure' remains valid; moreover, their relative nature is clear in that *archai* are always a principle *of* something.

The problem of how to start a scientific argument when looking for first principles is one of a special logical quality. The adagium 'every beginning is difficult' seems to apply very well here, as Aristotle knew himself.⁶⁰ There is an ultimate limit to the regression towards primary things, since the most primary things cannot be deduced from other more primary *archai* (*Top.* 158b3, cf. 163b28-32; *APost* 72a7). Therefore, Aristotle argues, they have to be known by means of proposition or definition (*Top.* 158b4). Definition, however, can be a matter of dispute (similar view in Theophr. *CP* 1.24). At this point the dialectical inquiry comes in to find a definition by subjecting existing definitions to a scrutiny.

Aristotle's preoccupation with first principles makes him state frequently that they cannot be deduced from other, more primary principles. His argument against sceptics in the *Metaph.* Γ is a good illustration of his need to justify this view in contemporary debate, the aim being to avoid the *regressus* of proof and the danger of 'destroying knowledge all together' (*Metaph.* 1011a12, 1012a20, 1063b7-11; cf. Theophrastus, *Metaph.* 9b21). The question, which has its antecedents in Plato (*Rep.* V, 511B), is therefore: how does one find first principles?

Aristotle's answer has long been regarded as inconsistent. In the *Topics* he made the claim that they could be found through *endoxa*, in the *APost* either through induction or by *nous* (often translated with the opaque word 'intuition'). Both lines of argument agree in the demand that one should start from something definite. Yet while in the former option Aristotle chooses *endoxa* ('generally agreed views') which are

⁵⁹ Cf. *Top.* Θ 8.163b27f.: ' [For just as in geometry ...] so too in arguments it is important to be prompt about *first principles* and to know your premisses by heart'.

⁶⁰ See *Soph. El.* 34, 183b16-28. Cf. Kal (1988) 33f., 44 ff.

suspect in terms of their truth-value, in the latter *nous* has been interpreted as a direct grasp of principles, mainly because ‘the starting-point of demonstration is not demonstration’ (*APost* 100b13).⁶¹ The problem is that Aristotle seems to re-introduce a quasi-mystical element by speaking of a direct ‘grasp’ by the *nous* — if both times Aristotle is speaking of the same (kind of) principles. However, recent studies show that both claims can be fitted into a coherent view.

To begin with the second point (*nous*), recent interpretations have shown that this need not be understood as ‘intuition’.⁶² Aristotle’s view entails that there is ‘no gap between the conceptual and the propositional view of principles, since the only propositions in question are essential definitions and assertions of existence.’⁶³ As soon as dialectic reaches the *archai*, one passes from the non-specific character of dialectic to the specific one of the particular field. The common *topoi* serve as logical principles of a higher abstract level. What Aristotle is trying to formulate is a terminology describing the second-order language of scientific methodology, i.e. those rules of relations and structures which apply to all statements in all types of research regardless of the subject at issue. The proper principles of a science ‘are limited to the *theseis* or posits of [*APost*] I 2: those things whose existence the science assumes, and whose per se attributes it studies’.⁶⁴

As to the first point (choice of the *endoxa*), we have suggested two reasons. First, *endoxa* qualify for the part of ‘initial starting-points’, because they are better known to us (*γνωριμότερα*, *Top.* Θ 5.159b8-9), thereby leading up to things more known by nature (*archai*). Scrutinizing existing and current views (*endoxa*) and preserving some of them would entail that *endoxa* are turned into *archai*.⁶⁵ As a result, an *endoxon* does not start out as a useful *archê* (cf. *APost* 72a4f.), but may become one after scrutiny. Secondly, they have wide support, which makes it probable that they are true or at least contain some truth. In fact Aristotle seems to suggest that they bear a close resemblance to truth.

⁶¹ In other words, it is in a way *faute de mieux* that Aristotle chooses views with a *prima facie* claim to be true, using them as *provisional principles* in order to arrive at *definite* principles after examination (Evans, 1977: 52).

⁶² See Burnyeat (1981) 99 ff. Cf. Leshner, *Phronesis* 18 (1973) 62.

⁶³ Burnyeat (1981) 130f.; Kahn (1981) 395.

⁶⁴ Kahn (1981) 392.

⁶⁵ This has been argued by Morsink (1982a; illustrated in his comments on *GA*, see his introduction to 1982b). For some criticism on Morsink’s conclusions, see Algra (1988) 122f.

This is implied by a remark in *Rhet.* 1355a14-15, the treatise closest to the *Topics*:

The true and the approximately true are apprehended by the same faculty (τῆς αὐτῆς ... ἐστὶ δυνάμεως). It may be noted that men have a sufficient natural instinct for what is true, and usually do arrive at the truth. Hence the man who makes a good guess at truth (στοιχάζειν) is likely to make a good guess at what is *generally accepted*.

This passage from the *Rhetoric* is particularly interesting as here the truth and *endoxa* are said to be apprehended by the same epistemic faculty.⁶⁶ Apparently *endoxa* and truth are not as far apart as would seem at first sight. In another passage (*Rhet.* 1359b5-16)⁶⁷ Aristotle discusses the finding of principles in a specific field of research. He distinguishes principles 'from which and about which', i.e. general assumptions (*koinai doxai*, as in *Metaph.* B 996b28) as the basis for proofs (of e.g. the principle of non-contradiction), and the basics of the individual sciences from which to set out (*EN* 1098b7-8; *APost* B 19). This distinction probably constitutes Aristotle's answer to the dual task Plato had given dialectic, viz. to argue *from* and *to* principles (*Rep.* 511B; cf. *EN* 1095a32-b4). Aristotle's two forms of intelligibility accord well with these two types of principles, viz. those more known to us and those more known by nature.⁶⁸

We may conclude that among the three meanings of *archê* distinguished here (beginning, element, basic assumption), it is the third that comes closest to the *archai* referred to in the dialectical mandate (*Top.* 101a34-35). Thus the search for principles on the basis of *endoxa* — presumably the most typical function of dialectic (*Top.* 101b2) — may be read as the heuristic to find fundamental suppositions at the most general level described above. In this sense it is 'investigative and thus provides a road towards all sciences' (*loc.cit.*).⁶⁹

Our objective now is to find out how Theophrastus is using the term *archai* in *DS*, and whether he is actually (or simultaneously) trying

⁶⁶ Cf. *Top.* 160b1; 162a3 'true and reputable'; of course an opinion can be reputable and not be true and vice versa. Cf. Arist *PA* 639a2 ff.

⁶⁷ Cf. *Soph.El.* 34, 183a37-b1, *Rhet.* 1359b5-16; 1355b8-10, 1356a30-31.

⁶⁸ Evans summarized it as follows (1977: 52): 'Aristotle regards it as the job of dialectic to proceed from *foundations to the foundations*. In science the foundations are first and can only be argued *from*. In dialectic the foundations are argued *to*, from foundations which are not *the foundations*.'

⁶⁹ This passage was discussed in Ch. 2.1.

to advance this particular field of science by looking for the *archai* of a theory of perception on the basis of *endoxa*.

2.2. Archai in DS

In a previous section on Theophrastus' selection of the views under discussion we already suggested that many of the *doxai* which he discussed are *endoxic*,⁷⁰ that is to say views which have found support and which have a *prima facie* claim to being true. The stage following the selection (or collecting) of *doxai* is the most important one for establishing their real value. As we will see shortly it can be argued that Theophrastus' remarks on the principles do in fact show similarity to a dialectical treatment. But before we characterize them as such a careful analysis of the relevant passages is needed, because his remarks are not an overt subscription to the dialectical program of *Top.* A 2, but rather an implicit (and partial) application of it.

Theophrastus' view on and use of principles is in line with Aristotle's. His well-known statement on the finding of principles in *Metaph.* 9b21-24 leaves no doubt about that: 'we should not ask for proof of everything',⁷¹ since such a demand would endanger the basis of all thinking and end up at a *regressus ad infinitum* which is methodologically inappropriate.⁷² His use of the term *archê* is in agreement with Aristotle's as can be observed in various passages of his work. We saw that sensation may play a role in obtaining starting-points.⁷³ He also acknowledges that we must obtain more primary *archai* from things better known to us.⁷⁴ These are examples of logical considerations on principles in an epistemological context.

⁷⁰ He does not *say* they are *endoxa* (but see above 2.1.2). There are some views which are rejected (e.g. those of the *polloi*). But within the framework of the 'endoxography' as well as the general requirements of correct arguing (giving reasons), the mentioning of unacceptable and unaccepted views is part of the game.

⁷¹ This was, as we saw, explicitly stated in *Top.* Θ. See also the commentary of Ross-Fobes *ad loc.*

⁷² ἡ γὰρ εἰς τὸ ἄπειρον ὁδὸς ... ἀναπροῦσα τὸ φρονεῖν, 9b4-5, cf. b21f. Cf. 85A *FHSG*; Wöhrle (1985) 157. On *not* using the *argumentum per impossibile* see *Top.* Θ 2.157b34 ff. and compare *Sign.* 1 (not Theophr.), fr.175 W., *CPI* 21.4.

⁷³ Fr. 13 W. = 301B *FHSG* (see Ch.2.3).

⁷⁴ Fr. 18 W. = 301A *FHSG*. Cf also *De igne* 6 where he 'defines' the basic principle as something primary, because it is 'more common (κοινότερον) and more in charge of change and generation'.

In *DS* we encounter nine instances of the word *archê*.⁷⁵ All the meanings distinguished above are present in *DS*. Its basic meaning for instance is found in *DS* 85, where Theophrastus discusses Plato's view on sound(s); here *archê* means 'beginning, starting-point' in a temporal sense (but this is in fact the only case.). The other examples exhibit features which would make them belong to the logical and physical context.⁷⁶

In its physical sense the term *archê* as ('tangible') principle refers to aspects of a physical entity, e.g. primary colours (black and white, *DS* 59, 79) or an element, e.g. air (*DS* 48).⁷⁷ It should be noted, however, that these instances are not entirely identical. In the first case the colours 'black' and 'white' function as principle for colours, which belong to a sub-category of perception (vision, colour), whereas in the second case 'air' makes up the central element of Diogenes' theory as a whole. Thus *archê* refers to principles on different levels with different domains of validity (extension). The diversity of the use of the term 'principle' is shown by these instances. But the third and most important sense of *archê* — (meta)physical principle — is also represented in *DS*.

We should go back to the *divisio* of *DS* 1 where Theophrastus so conveniently reduced the basic rules directing the approach towards perception to two options, viz. by similarity or by contrast. That this basic rule can be regarded as the topical principle we are looking for can indeed be argued from several statements Theophrastus makes in the course of his argumentation. Two points in particular justify such a claim: 1. he refers to it as *archê* (examples follow below); 2. he indicates its major importance and general scope, features which characterize them as fundamentals.

The direct evaluation of the basic principle in this sense at the beginning of many sections is a characteristic of the approach in *DS*. Significantly, it is found in those cases where the philosopher at issue is criticised afterwards: with Empedocles (*DS* 7), Anaxagoras (*DS* 27), Diogenes (*DS* 39), and Democritus (*DS* 49). Theophrastus either mentions their basic approach towards perception or tries to establish it when no explicit statement on to this issue is found. Thus Theophrastus seems to make a distinction between those making important

⁷⁵ *DS* 33; 38; 48; 59; 71, 79; 82 (twice); 85.

⁷⁶ Cf. Appendix C.

⁷⁷ Likewise, we should consider the term *hapla*.

contributions and those who may be ‘classified’ with these.⁷⁸ In our analysis of the general structure of *DS* (Ch. 1.2) we have seen that the text can be divided into ‘mainstream’ (concentrating on principles) and additional information (views modifying and improving, as it were, on ‘mainstream’ contributions). In this way the philosophers discussed split up into three groups as follows:

- *like-by-like*: Parmenides, Plato, Empedocles
- *contrast* : Alcmeon, Anaxagoras, Clidemus
- *no principle* (?): Diogenes, Democritus

But his attention is not only focused on this topic at the beginning of new sections in his report. Following the lead of these explicit signs of *archê* exegesis we can go even further. When we analyzed the main features of the critical evaluations (Ch. 5.2) we also showed that the series of objections often have some kind of ‘focal point’. We argued that this could be explained on the basis of two suppositions:

- (1) that Theophrastus is following the advice of Aristotle expressed in *Top.* Θ 8 to formulate many arguments against one point

and

- (2) that the discussion of numerous details was an elaborate way of examining the functions of the basic principle.

If we combine these findings with the suggestions brought forward in this section, a link between the initial *divisio* of principles, the refutation of many details, and the dialectical objective can be established.

I would suggest that these three aspects constitute the different levels at which the (propositional) principle can be scrutinized and tested. Theophrastus does this with the most important representatives of the two ‘parties’, namely Empedocles and Anaxagoras. Empedocles’ theory, in the eyes of Theophrastus the most comprehensive one, receives attention on other points, but mostly Theophrastus is concerned with Empedocles’ way of explaining perception by the process of ‘fitting into’ (*enarmottein*). Thus he evaluates the concrete level of

⁷⁸ Note that this complies with the structure set out in Ch. 3.2. For the emphasis on original contributions (ῥῖα), see also Ch. 3.2.

Empedocles' account by his general (and abstract) axiom of like-by-like.

The passages on Anaxagoras are more clear. Here most objections aim at the Anaxagorean version of the contrast mechanism. Theophrastus subscribes to the idea of contrast (theoretically), but rejects the Anaxagorean stance that this is always accompanied by 'pain'. He gives examples of difficulties ensuing from such a combination of concepts. The same happens in the case of Diogenes and Democritus. The former is an extremely good example of monism when it comes to the claims of his theory — where the air itself is a physical *archê*, but that the claim for the *role* of the air is important as propositional *archê*. The latter is used to exploit a lack of clarity (*DS* 49) with regard to the principle.⁷⁹

So here we see how Theophrastus is trying to evaluate aspects of Presocratic theories which are related to the basic elements as main material *constituents* of the world as they saw them, or to propositions making *basic claims* about the world. It is the latter kind in particular we should turn our attention to now.

3. *Theophrastus on Basic Principles*

The question remains whether we can establish that Theophrastus regards these basic principles of *DS* 1 as fundamental propositions in the sense of *Top.* A 2. This step can be made, or so I believe, by paying attention to three significant remarks which are found among the objections.

3.1. *Archai and Dialectic in DS*

We have already pointed out that *archê* can be equivalent to *hypothesis* (above, p. 217). In this sense *archê* goes beyond its basic meaning of 'starting-point' (in time or as a physical entity), and stands for a proposition which directs and governs the theory (or argument) which depends on it. We find the term (or a similar expression) used in this sense three times, the clearest instance being in *DS* 29⁸⁰:

⁷⁹ Despite *DS* 50 (end), Ar. *GC* A.7 and Sext. *Emp.* *M.* 7.116: see Ch. 5.4.2 (esp. n. 156).

⁸⁰ Stratton's remark (see his n. 88) is hardly helpful here.

[Anaxagoras holds] that all perception is accompanied by pain, which would seem to result from his 'postulate' (ἅπασαν δ' αἴσθησιν μετὰ λύπης, ὅπερ ἂν δόξειεν ἀκόλουθον εἶναι τῇ ὑποθέσει).

The *hypothesis* (or basic assumption) of Anaxagoras' theory is that perception occurs through opposition, the idea of distress being a concomitant phenomenon. It is clear that Theophrastus is here referring to *DS* 1. If our interpretation of the terms is correct, this throws a new light on the importance of the initial division of *DS* 1 and its constituting elements. Once this is recognized, other passages fall into place.

That the presuppositions of the early Greek thinkers qualify as fundamental postulates of the explanation of perception is, I think, revealed by similar statements Theophrastus makes on Anaxagoras and Diogenes. First on Anaxagoras (33):

ἀλλὰ τοῦτο μὲν ἀπὸ μικρᾶς ἀρχῆς ἐφ' ὅλην μετήνεγκε τὴν αἴσθησιν
Nevertheless, on the basis of a small warrant, he transferred his principle to sense perception as a whole.⁸¹

Note the formulas ἀπὸ μικρᾶς ἀρχῆς and μετήνεγκε (μεταφέρειν), which bear a striking resemblance to the phrases Aristotle used in the important passage concerning the defence of basic principles.⁸² It is perhaps no coincidence that Theophrastus is most explicit against those to whom his own views are most opposed. Anaxagoras did not observe the correct applicability of his (not unreasonable) assumption. Clearly Theophrastus regards the postulate as a principle to be argued *from*, which makes it a good example of a basic principle in the sense of *Top.* A 2.

Diogenes is rebuked in similar terms in *DS* 46 where the criticism starts with the remark:

Διογένης μὲν οὖν πάντα βουλόμενος ἀνάπτειν τῷ ἀέρι πολλῶν ἀπολείπεται πρὸς πίστιν ...
Diogenes in trying to bring everything into connection with the air fails to be convincing.⁸³

After having illustrated this with several counter-examples Theophrastus concludes by stating:

⁸¹ *DS* 33 (end). The remark concludes *DS* 31-33.

⁸² Above p. 218 (*De caelo* 3).

⁸³ *DS* 46 *init.* See also next note.

Δ. ... ἅπαντα προθυμούμενος ἀνάγειν εἰς τὴν ἀρχὴν πολλὰ διαμαρτάνει τῶν εὐλόγων.

Thus Diogenes in his zeal to derive everything from his principle ... strays repeatedly from what is likely.⁸⁴

The emphasis this point obtains by this repetition (expository figure of speech to close the circle, cf. *DS* 1-*DS* 58) reinforces its important role and makes it (at least in these cases) a crucial point of criticism. The remark against Parmenides seems to be a further example of this approach (*DS* 4).

οὕτω μὲν οὖν αὐτὸς ἔοικεν ἀποτέμεσθαι τῇ φάσει τὰ συμβαίνοντα δυσχερῇ διὰ τὴν ὑπόληψιν

In this way he himself seems to cut short comment on(?) the difficulties ensuing from his assumption.

The ‘problems that ensue from his *assumption*’ can be matched with the remark ‘as though principles ... results’ in which Aristotle deals with earlier attempts at explaining natural principles (quoted on p.218).

3.2. *Two Exceptions? How to Rescue the Argument*

In the foregoing interpretation of some occurrences of the word *archê* I have taken the term in its derived meaning (third sense distinguished above) thus regarding the discussion of ‘basic assumptions’ according to the dialectical mandate of *Top.* A.2 as *implicit*. In doing so I have not dealt with several cases of *archê* in the sense of physical principle (*stoicheion*, element).⁸⁵ It is only fair to point out that two of these, which concern *explicit* references to *archai*, may form an obstacle to the interpretation just given. The first seems to express the view that the discussion of *archai* is (too) difficult, and the second seems to indicate that fundamental problems of truth should perhaps be treated elsewhere.⁸⁶ If we want to uphold our argument set out in the previous sections, we should explain what Theophrastus means and how these cases can be reconciled with the proposed interpretation.

The first remark is found at *DS* 82, where Theophrastus criticizes Democritus for not having used a consistent explanation for all

⁸⁴ *DS* 48. This remark concludes *DS* 46-48 (and the section on Diogenes as a whole). In *DS* 47 a third remark refers to the same point: ‘this is introduced on too small a warrant’ (μικροῦ γὰρ ἔνεκα τοῦτ’ ἔστιν).

⁸⁵ See Appendix D.

⁸⁶ The difficulty with *archai* is also emphasized in *Top.* Θ. (see above p. 217).

colours. It clearly deals with physical principles. However, the specific point against Democritus⁸⁷ is transferred to a more general level when Theophrastus expands on the problematic nature of principles. Not only does he state that the matter of basic principles (here called *hapla* and *archai*) is difficult, but he also formulates what Democritus should have done:

Most (important) of all, it should be articulated what *kind* of ἅπλα belong to the colours, and *for what reason* some are composite, others simple; for the greatest perplexion arises over the basic principles (πλείστη γὰρ ἀπορία περὶ τῶν ἀρχῶν). But this is no doubt a difficult matter.

Here the fundamental point is made that Democritus did not reflect on the nature of the most basic elements (ἀπλᾶ) of colour. Theophrastus next implies that, had Democritus done so, he would have discovered that they may be composite or simple, thus leaving another *explanandum* to be accounted for. The ensuing remarks suggest that Theophrastus thinks the discussion of the basic principles, which he calls a difficult puzzle, should be conducted in a more appropriate context — a suggestion he also formulates elsewhere.⁸⁸

The second passage (*DS* 60) concerns a quite different point. With regard to the basic assumption (ὑπόθεσις) of Plato and Democritus on the nature of the perceptibles Theophrastus apparently states that he is not now concerned with the truth of either.⁸⁹ What he does want to

⁸⁷ Discussed Ch. 5.4, p. 190f.

⁸⁸ Compare *De igne* 7-8 Ἀλλὰ γὰρ ταῦτα ἔοικεν ἐς μείζω τινὰ σκέψιν ἐκφέρειν ἡμᾶς τῶν ὑποκειμένων ἢ ζητεῖ τὰς πρώτας αἰτίας. As a more appropriate context we should probably think of his *Metaphysics*, which is unmistakably an investigation into principles, see e.g. *Met.* 5a19, 9b6. For a full treatment of this work see now M. van Raalte (1993), Laks/Most (1993). On principles see also Laks (1998).

⁸⁹ This is what I take him to mean with the phrase ποτέρως μὲν οὖν ἔχει τάληθές οὐκ ἂν εἴη λόγος (*DS* 60). There is a minor issue about how to read the text; it may be read in two ways, (a) ‘which of the two is true, thereof is no proof’; or (b) ‘which of the two is true, cannot be stated <now>’ (cf. *DG* to 516.16 inserting νῦν). The first would imply a kind of *aporia* in its basic sense, expressing the inability to answer the question; the second would merely indicate the scope of the discussion that is to follow. I think the second option is more probable. Among several reasons the most important one is that it is supported by the remark in *DS* 89 which states the objective of the study of perception: ‘what we want to find is the *ousia* behind the affections and by what cause they produce them, since they themselves we can observe’. The *physis* is dealt with in *CP* 6 (see esp. 6.1.2 and 6.5.6); see also Ch. 2.3, n. 136.

establish is ‘the extent to which they have dealt with the sense objects and in what way these have been defined’ after having stated ‘the general approach of both’.⁹⁰

Both remarks point to a working procedure in which different tasks are given separate treatments. It would perhaps go too far to say that this is the result of Theophrastus’ preference for the ‘appropriate method’ (*oikeios tropos*), but it at least shows that Theophrastus has specific intentions in *DS*. The formulation of *DS* 60 may be taken as a general program of the work as a whole. Taken in conjunction with the remark at *DS* 89 and the introductory statement of *CP* 6.1.2 (quoted on p. 88 n. 78, it is perhaps a good instance of the division of labour between preliminary research and systematic discussion.

3.3. Conclusion

We have examined the meaning of the word *archê* in our text and the indications which might vindicate the claim that *DS* (also) constitutes an example of Aristotelian *archê* dialectic. By distinguishing different kinds of *archai* it could be established, or so I believe, what kind is used in *DS* and what its role is. In Aristotle’s philosophy the term *archê* denotes the different functions of ‘basic concepts’ in the argument ranging from physical entity to metaphysical proposition.

Many of Theophrastus’ criticisms concern points conflicting with *endoxa* and facts of experience. Therefore his evaluation of propositional *archai* or *hypotheses* can only be called a dialectical procedure in a restricted sense. Dialectic proper was defined as the reasoning from provisional *archai* to the foundations of a certain discipline. Such a form of reasoning does not materialize in *DS*. However, Theophrastus’ persistent attention for the basic assumptions known on perception of the theories at issue shows that they play an important role. Whenever Theophrastus mentions *archai* explicitly, the term is as a rule used in its second sense of physical principle. Thus he calls Diogenes’ air a principle (46) and mentions Democritus’ hot and cold (71). But he also uses the term in another way. We have seen that a few remarks should be read as second-order observations regarding the basic *assumptions* of

⁹⁰ ἐφ’ ὅσον δὲ ἑκάτερος ἦπται καὶ πῶς ἀφώριξε, πειραθῶμεν ἀποδοῦναι πρότερον εἰπόντες τὴν ὅλην ἔφοδον ἑκατέρου (*DS* 60). Note the presence of some of the question types mentioned in Ch. 3.1.3.

the thinkers discussed. These *hypotheses* can be regarded as propositional *archai*.⁹¹

Theophrastus' critical evaluation of these particular basic principles is to a large degree executed indirectly *via* his objections, even if he does also pay attention to other details. The initial *divisio* of *DS* 1 remains at the back of his mind and determines his opening remarks every time a further theory is taken up. The spectrum of basic explanations is narrowed down to two (or perhaps three) possibilities, a move which resembles the dichotomous pattern of the dialectical question (*problēma*). However this may be, it renders the account of existing views tractable and would make the final decision more easy. That such a decision is not found in *DS* suggests that Theophrastus dealt with it elsewhere. A few remarks on this question will be made in our concluding chapter. It is fair to say that Theophrastus' treatment of the theories of perception was intended to be a conveniently arranged collection of possible explanations, which through the addition of several objections would clarify the originality, limitations and flaws of the selected *doxai*. By discussing the extreme positions (and those in between, cf. *DS* 5) Theophrastus is *setting parameters* for the discussion of and investigation into (the *archai* of) perception.

4. Summary

The central question of the present chapter — to what extent is Theophrastus' argument dialectical *sensu Aristotelico*? — can now be addressed. We have shown that a number of criticisms are in line with recommendations of the *Top.* about collecting *endoxa* on any subject studied (bk. A), and collecting *arguments* against known positions in debate (bk. Θ). The recurrent argument forms favour such a line of interpretation (6.1) even if in a number of cases there are non standard arguments. Moreover, a number of objections can be related to specific Aristotelian *topoi* with a surprising degree of accuracy. Thus it

⁹¹ This explains why these passages were also prominent in our section on the 'universal validity' of certain claims (Ch. 6.1 § [iv]). There must be a link between universal validity and the force of *archai* in a theory. Note the following phrases: *DS* 33 ἀπὸ μικρᾶς ἀρχῆς ἐφ' ὅλην μετήνεγκε τὴν αἴσθησιν.; *DS* 46 (*init.*), Δ. ... πάντα βουλόμενος ἀνάπτειν τῷ ἀέρι ἀπολείπεται πρὸς πίστιν ≈ *DS* 48 (end) Δ. ... ἅπαντα προθυμούμενος ἀνάγειν (!) εἰς τὴν ἀρχὴν πολλὰ διαμαρτάνει τῶν εὐλόγων. Cf. Plato *DS* 91 οὔτε γὰρ κοινὸς ἅπασι.

could be shown that Theophrastus' general emphasis on clarity of formulation, which is elementary in philosophical discourse, had the additional (and more fundamental) aim of showing up incoherence and inconsistency in the theories under discussion. Lastly, important motifs underlying several critical arguments also took their cue from *topical* tactics, showing that the objections, even if often directed at the content, were strongly influenced by formal patterns. In a number of cases the formal aspect was dominant to such a degree that Theophrastus' commitment to the material point was improbable or absent.⁹² In sum, the argument in *DS* exhibits a considerable influence of dialectical tactics in its critical outlook and formal approach.

Yet, it is only fair to say that some points (mostly technicalities) fit this picture less well. First, only very few cases discussed above comply with the correct refutation, which strictly speaking should be in the form of a "reasoning according to negation" (*Soph.El.*, 168a36-37). Secondly, Theophrastus' occasional use of the *reductio ad impossibile/absurdum* (e.g. *DS* 13-14) in a sense disqualifies certain arguments as dialectical. Aristotle clearly bans this type of argument from dialectical encounters, since it causes dispute over the clarity of deductive argument (*Top.* Θ 2.157b37-38; cf. Ch. 5, n.68). Thirdly, it is a well-known fact that many of the *topoi* have equivalents in the rhetorical context, a fact that allowed us to draw attention to rhetorical features in Theophrastus' argumentation. Their presence informs us that Theophrastus' method of presentation has a composite character.⁹³

It follows that the question to what extent the argument is dialectical should be answered with these points in mind. Our criteria for deciding upon the dialectical nature of the argumentation (and the treatise as a whole) should be based on the analyses in all the foregoing chapters (2-6.3). The minimum requirements for a work to be said dialectical in the strict sense (including the mandate of *Top.* A 2) might be listed as follows:

⁹² This holds mainly for those cases in which the approach is commonly characterised as 'purely logical' or even 'sophistic' (cf. Mansion, 1961: 45f). See e.g. Empedocles, no. 2-3.b, Anaxagoras, no. 5.a and Diogenes, no. 5. But compare the point against Anaxagoras (no. 1.a) where the argument contradicts Theophrastean doctrine.

⁹³ On other general principles of argumentation from the *Topics* see Ch. 5, n.162 (economy of principles), n.169 (*adunata*), n.186 (deductive reasoning).

- (i) it makes use of *endoxa*;
- (ii) it exhibits dialectical argument forms (topical or meta-theoretical);
- (iii) it is embedded in a systematical context (as in Aristotle);
- (iv) it aims at obtaining basic starting-points (*archai*).

For *DS* the features (i) and (ii) apply, but (iii) and (iv) apparently do not.⁹⁴ We may note that, compared to Aristotle, Theophrastus' treatment of previous views in *DS* shows some significant differences. These mainly concern the use of the sources (Theophrastus is more accurate) and the way in which the discussion of *doxai* becomes intertwined with the systematical exposition.

We may conclude that *DS* is dialectical *sensu Aristotelico* to a considerable degree. All the evidence warrants such a conclusion: the selection of material, the method of presentation, the argument forms, the underlying assumptions — they can be seen (in variable degrees of explicitness) as part of the overall structure to evaluate reputable views on perception in a critical way, very much like what we find set out and applied in Aristotle.

The fact that our answer is qualified by 'to a considerable degree' is not to be understood as undermining it: it was clear from the start that any answer would be a matter of degree. It is significant in itself that we had to put the question in the way we did (to what extent is *DS* dialectical *sensu Aristotelico*?): after all, had *DS* been a clear-cut case of dialectical exercise (of the kind that we imagine must have existed in the Peripatos) clearly and thoroughly pervaded by dialectical argument forms, the question would perhaps not have arisen, because it would have been plain for all to see. By establishing through empirical analysis that the dialectical nature of the treatise is *implicit*, we had to accept the corollary that we are dealing with a more complex situation in need of a careful approach. By characterizing the method and argumentation in *DS* in general terms as well as measured against dialectical guidelines, we have brought the analysis as far as we possibly could.

If we can not go all the way in saying that *DS* is also implementing the injunction of *Top. A 2* (search for *archai*), this does not detract from the value of our results either. We have been able to show that

⁹⁴ See Baltussen (1998) for more details on this aspect.

Theophrastus was concerned with this aspect, but probably chose to deal with it elsewhere. Thus a further implication of our findings seems to be that *DS* exhibits a quite ambivalent character in that it could be an independent overview (though not necessarily a monograph in the strict sense!), yet also contains a few signs of systematic interrelations. I have argued elsewhere that this ambivalence indicates the overview could have had several different purposes (n.94). It emphasizes the unique nature of the text about which we are now better informed as to its form and substance.

CHAPTER SEVEN

EPILOGUE: RESULTS AND OUTLOOK

In this final chapter I shall briefly reflect on the results of our analyses of the previous chapters, both as to their importance and their implications. This will entail putting the various results into a wider perspective but also indicating what remains to be done. These two tasks are connected to some extent. While we have discussed the structure and working methods, so to speak the ‘internal’ evidence of Theophrastus in the *DS* in order to clarify the argumentative approach, a lot remains to be done on the material relevant to its role in the doxographical tradition (‘external’ evidence). As I have argued in Ch. 2 and elsewhere¹ the enigmatic character of *DS* is defined by its position at the cross-roads of dialectic and doxography — these are like two sides of the same coin. The dialectical aspect is a constituent in the puzzle of how we should see the role of the treatise in the doxographical tradition. Although I have analysed relevant material from the Aëtian *Placita* in a previous version of this book, I have with some hesitation decided to confine myself here to give only a summary account of the problems involved and to outline what further tasks lie ahead. This is a measure inspired both by the need for further thought on the relevant sources and by the recent developments in the study of doxography (Aëtius).²

¹ Baltussen (1992).

² I add that I intend to deal with the material more extensively and in more detail in the context of a commentary which I am preparing on the Theophrastean fragments concerning ‘physical doxography’ (fr. 224-245 FHSG). As to the second point, I note that the two foremost experts on the doxographical tradition, J. Mansfeld and D.T. Runia, are writing a three-volume study on Aëtius, the *Placita* and doxography, and that the first volume (1997) already shows how much further work needs to be done to unravel the intricacies and complexities of this subject matter. For another point see the review of their book by M. Frede (1999).

1. *Results: Importance of the Present Study*

In his masterly article in the *RE* (Suppl. 7, 1940) Otto Regenbogen had suggested that the *DS* could be expected to have had some role in the philosophical endeavors of Theophrastus. We have explored how this might be understood. As such the analysis provided is the first book length treatment of the *DS* since L. Philippson's *Hylê anthrôpinê* (1831).

As a starting point we have taken the view that an interest in Peripatetic dialectic would enable us to better understand the argumentative patterns in *DS*. Linking up with recent research on how the *Topics* of Aristotle was influential in establishing the method dealing with *doxai* and *endoxic* views, we were able to bring out the importance of the dialectical method for philosophical enquiry, if properly understood. It seems necessary to interpret the methodology of dialectic as a way of training in a particular type of debate, in which certain roles and rules put constraints on what is allowed and how the progression in debate develops. The procedure employs a question and answer technique which forces the participants to make a step by step progress on the basis of agreed premisses. Reaching a conclusion means working one's way toward the thesis (the position which had been agreed upon) in such a way that the opponent will not foresee it and in the final step of reasoning, is unable *not* to assent to.

But this is only the concrete gymnastic level. It was argued that the *Topics* provides further clues for understanding the more serious role of dialectic, applied dialectic as we called it. This interpretation is partly based on several recent studies, partly on new analysis of clues (*Topics*) which connect dialectic and philosophy in Aristotle. We have argued that these clues allow for a further use of dialectical tactics which goes beyond the question and answer level. Once it is realised how the philosopher can perform the double role as one person, by integrating the mental abilities produced by the crucial features of the roles of the training debate, a powerful tool is found to analyse arguments, anticipate and formulate objections, and in the ideal case, to search for basic starting-points by converting *endoxa* (reputable views which are *prima facie* true) into useful starting-points for an individual field of knowledge.

We have also spent some time on making plausible how this would hold for Theophrastus (Ch. 3) by looking into the evidence for his interest in dialectic, and his methodology in general. Here we have

shown that his interests and approach exhibit great similarity with Aristotle, but that it is at the same time characteristic of his methodology to improve and refine Aristotle's method and thought. In addition to describing this methodological similarity we have shown how Theophrastus is filling in gaps in his study of perception. It would therefore make perfect sense to gather systematically (historical) materials for that purpose.

To clarify these two aspects — the use of dialectic in serious philosophical inquiry and the opportunity for further work in the area of sense perception — was the main task of Chapters 1-3 to prepare the actual analysis.

We started the analysis with Theophrastus' treatment of Plato (Ch.4) for two reasons: (i) of all the thinkers discussed in *DS* Plato is the only case where we are in a good position to assess Theophrastus' working method, since we still have the work which (in some version or other) must have been his source, Plato's *Timaeus*; (ii) given (i), we would be better equipped to explore if and how the results of a comparison between *DS* and *Tim.* could be extrapolated (*mutatis mutandis*) to the Presocratics. The most important conclusion of the comparison is the selective nature of Theophrastus' procedure, focusing on statements concerned with physiological psychology. This principle is observed to such great length that he seems to ignore the wider objectives of his source completely. Some omissions are difficult to explain, for instance when Theophrastus claims Plato did not discuss all the senses (*DS* 5). In this connexion we have also looked briefly at the excerpting technique and pointed to the existence of summaries and *epitomai* (listed in D.L. under both Aristotle's and Theophrastus' works). But it would be rash to think that he did not have access to the whole of the *Timaeus*. The references in Aristotle and the textual version of Theophrastus clearly prove they had had a text at some point in time — although summary versions of (parts of) the *Timaeus* may have been in use early on, so that it cannot be ruled out that in some cases of omission Theophrastus relied on excerpts rather than the complete text. I have defended his selective procedure to some extent on the assumption that it is inappropriate to apply modern standards of accuracy in quoting and fairness. Yet it is also clear that Theophrastus is unable to escape the Peripatetic frame of mind as seen in his selection and treatment of Plato's views.

In the analysis of the criticisms of the Presocratics (Ch. 5) it was shown how the many objections often have a common 'focus' (loosely

defined). An attempt was made to tease out the underlying assumptions and find structural patterns. In addition possible links with the dialectical strategies were signalled. In the presentation it was brought out that Theophrastus' overall approach works by division into main types, dealing with Empedocles and Anaxagoras as the main representatives of the two basic positions (like-by-like and unlike-by-unlike). Although Empedocles' attempt at a consistent treatment of the senses receives some faint praise, his principle comes under heavy attack and in the final analysis the theory is ridiculed (*DS* 23) and condemned as 'mistaken' in many respects (*DS* 24). Theophrastus is sympathetic to Anaxagoras' use of opposition, but again finds several reasons to criticize the account (in particular the explanation of vision). The other thinkers discussed by Theophrastus all deserve their place in the overview, but seem nevertheless to be added to the main division. Measured against this division Alcmeon does not seem to fit in clearly, and there is also a problem of how to interpret Democritus, who seems to provide evidence (according to Theophrastus) for classifying him with both camps. Here it is clear that the division of *DS* 1 acts as a strait-jacket with the result that there isn't a good fit for everyone (cf. Mansfeld 1996). It is this procedure which can be said to have its roots in the disjunctive approach of the dialectical debate, and which may have had a lasting influence on the doxographical tradition.

In chapter six we have gathered all the evidence for the dialectical nature of the *DS*. Moreover, on the basis of the results of the previous chapters we have tried to establish whether the 'most peculiar function of dialectic', the search for basic starting-points (principles) is part of the driving force in the arguments of the *DS*. This hypothesis could not be established, but we could make the plausible suggestion that Theophrastus dealt with the search for *archai* of perception elsewhere.

A few additional insights have emerged from our analyses. First, the title. We cannot deny that we lack references to the text with the name of an author in later times. But this is compensated by the style, which seems to leave little doubt that it is Theophrastean,³ while it is also in line with the manuscripts. In general it is a tricky (and not very rewarding) business to attribute a title to a surviving untitled work. As to the *DS* itself one might think that the version of the mss. (plural) fits the title *περὶ αἰσθήσεων α'* preserved in D.L. V 42. But the full

³ See Ch. 3.1.3, 5.2.4 and 5.3.

evidence is not unanimously in favour of such an attribution.⁴ Secondly, Theophrastus' interest in perception is philosophically based on the importance of perception in his epistemology (Ch. 3.1). It is clearly his intention to present a survey of detailed explanations of sense perception proposed by pre-Aristotelian thinkers, showing particular interest in Plato's *Tim.* and Democritus (Ch.4). The great amount of detail in the reports indicates that he had access to good sources.⁵

Thirdly, we have highlighted a further feature of the dialectical procedure which has not yet received much attention. Although recent research has emphasized the importance of *Top.* A 14 where Aristotle recommends collecting doxai (as this may explain the existence of lists of doxai as the origin of doxographical overviews⁶), our analysis has also brought out the importance of another recommendation found in *Top.* Θ 14. Here Aristotle gives the valuable advice to design and collect sets of counter-arguments (objections) against one single point. We have suggested that this may explain the occurrence of chains of objections (connected by ἔτι and often directed against the same point).⁷ It is these two guidelines, more than anything else, which constitute the backbone of the formal procedure in critically examining reputable views. The procedure can thus be shown to have evolved naturally out of the Peripatetic view on the role of doxa, allowing us to establish that the Peripatetic approach can be best regarded as critical *endoxography*. Theophrastus' implementation of this approach, in which the philosophical interpretation of opinion was combined with the existing technique of presenting views thematically, was an important stage in the development towards *doxography* proper.

Finally, there can be little doubt that the (loose) chronological demarcation of the subject (discussing thinkers up to Aristotle) was intentional. The testimony of Simplicius (*In Phys.* 26.7-8), where Plato closes the line of thinkers, indicates that the same approach was adopted in the introduction to Theophrastus' *Physics*. It follows that the

⁴ Cf. *DG* 114 ff. and see Gutas in *RUSCH* II (1983) 82 with annotations on the (Arabic) catalogue, no. 7 'De sensu et sensato, four books'.

⁵ On this point see esp. Ch. 3.1.4 (*in fine*) and Ch. 5.2.2-3.

⁶ E.g. Mansfeld (1990b), (1992b).

⁷ There seems to be some evidence to suggest that these lists too became influential in later authors, where sets of objections could serve their purpose in a polemical context (e.g. Alexander, *In de sensu* 28-31, id. *de an. liber mantissa* 157 ff. Bruns)

DS as we have it need not be regarded as incomplete. If this is correct, the *DS* is not a fragment in the strict sense. It seems a self-contained whole which is ‘rough around the edges’ — a feature characteristic of a subsidiary work.⁸

2. Outlook: *Doxography and What Remains to be Done*

It will be clear that the evidence that emerges from the *DS* itself will not suffice to get a complete picture of the role and purpose it may have served. Although we have no (explicit) references which attribute a work *On the senses* to Theophrastus after Diogenes Laertius (V 42), the evidence in later doxographic collections allows us to explore to some extent the *fortuna* of the Theophrastean collection of *doxai*. By printing the *DS* as a fragment of the *Phys.op.*, Diels adopted Usener’s suggestion that the text originally was part of a (lost) work *On the opinions of the physicists* (*De Physicorum Opinionibus*, abbreviated *Phys.op.*). The few serious arguments Diels put forward to reinforce this view can be found mainly in two passages of the Prolegomena of his *Doxographi Graeci* (1879), viz. in chapter viii, ‘De Theophrasti Physicorum Opinionibus’ (pp. 102 ff., esp. 114) and in chapter xvii, ‘De Vetustorum Placitorum Fontibus’ (pp. 214 ff., esp. 222 ff.). In the first passage he virtually repeated the ‘evidence’ as presented by Usener,⁹ in the second he compared several passages from the *DS* with the (presumably dependent) sections on sense perception and the senses in the *Plac.*¹⁰ Closer reading of these sections and a further analysis of the arguments reveals that this hypothesis is not as straightforward as Diels and Usener would have us believe. Here is the gist of their arguments.

Usener had suggested that the approach in *DS* and the passages in book I of Simplicius’ Commentary on the *Physics* of Aristotle (based on Theophrastus) show some resemblance in the way thinkers are compared and grouped with each other on certain points. I would argue that he exaggerates the significance of these similarities considerably. He also points to the connective δὲ at the start of *DS* (cf. Ch. 1, n. 22) presumably as proof that it cannot stand on its own but has to be a

⁸ Or work that was provisional, cf. Eichholz (1965) 7, n. 1; 13; 15 n. 2.

⁹ *Analecta Theophrastea* (1858) 25 ff. (see esp. 27). But Diels added one argument of his own, see below.

¹⁰ Besides *Plac.* 8–23 of book IV (*DG* 393 ff.) a few sections from book I are also relevant.

continuation. If the particle has this function here (which it may), this does not allow any inferences about the context it could have belonged to (nor for that matter does Usener's point about δόξαι in *DS* 1, 58). Furthermore, he offers an interpretation (mostly implicit) of the titles related to the list of Theophrastus' works on physics and physical opinions in several sources (D.L., Simplicius, Priscianus) which has been shown by Steinmetz to be confused.

Diels' version of the hypothesis contains one new observation and a half-hearted attempt at comparing *DS* and the *Placita*. The argument implied in his new observation is put forward without much force (though it is worth considering): it shows that he really did consider (but rejected) the possibility that the fragment belonged to a systematical context. In his *Prolegomena* (*DG*, 114) he remarks: 'praeterea quamvis contractor sit oratio, tamen et enarrandi et refutandi accuratio maior est quam ut suae doctrinae veterum philosophiae censura prolusisse videatur' (italics mine).¹¹ He states that the fragment cannot constitute a preliminary discussion to Theophrastus' own doctrine because the detailed summaries and refutations are too elaborate for such a purpose.¹² In addition, in what looks as an attempt to support the *Phys.op.* hypothesis he points to a few parallels in Aëtius. This is not a thorough and wide-ranging analysis; in other words, he did not pursue the matter seriously. We are now able to say that perhaps another reason is responsible for his approach. From the recently published correspondence of Diels with Usener (Ehler, 1992) it becomes clear that Diels postponed working on the *DS* because Usener regarded it as a very difficult task (March-April 1877).¹³

The comparison between *DS* and *Plac.* IV.8-23 (which contains material dealing with *doxai* on the senses) shows how complex the

¹¹ Cf. *ibid.* 164.

¹² The same point is used by Gottschalk (1967: 20) in his review of Steinmetz (1964). But it remains to be seen whether this objection is as final as it might seem at first sight, as it presupposes that Theophrastus makes a deliberately equal use of his material in all books of the *Physics*.

¹³ Usener to Diels March 27, 1877 (cf. Diels to Usener April 10, 1877): 'Theophrast πρὶ αἰσθήσεως werde ich nach Ihrem Abwinken nicht berühren' (Ehler, I 133; cf. July 22, 1877 on his plans for the publication of the book at Reimer's: 'auf Theophrast p. αἰσθήσ. habe ich verzichtet'); he took up working on it later, see his letter dated Jan. 26, 1878 [Ehler, I 138]. Moreover, he found out that Brandis's collations (which he had used) were seriously flawed at a time where most of the book was already type-set. Letter to Usener, the text was finished before the end of 1878. Usener asks for a copy in a letter dated Nov. 25, 1878, adding 'ich möchte das schwere Stück in Ruhe durchsehen' (Ehler, I 171).

transmission is, and how patchy Diels' treatment. Some preliminary results as to the entries in the *Plac.* and parallels with *DS* are as follows:

Mentioned by Diels:

Empedocles	6 entries of which perhaps one related to <i>DS</i>
Alcmeon	3 good parallels but compressed and 'modernised' language
Diogenes Apol.	several good parallels, despite many inaccuracies in Aëtius

Not mentioned by Diels:

Anaxagoras	7 entries mostly in cluster of names; 4 possible parallels
Democritus	Few entries; one possible parallel
Parmenides	3 entries (often in cluster); 1 possible parallel
Plato	6 entries of which 1 possible parallel

As can already be seen from this quick overview, Diels preferred to look at the available *positive* evidence to *strengthen* his position, but neglected or suppressed those cases which would have undermined it. The case of Plato is particularly telling here, since these instances can be shown to have originated in a much wider range of sources, while only one would qualify as a parallel with *DS*.¹⁴ In all the other cases more sources should be taken into account, with particular pride of place for Aristotle whose relevant work on the senses and the soul can be shown to have a significant influence on the structure and content of the Aëtian doxography. Diels used all this as significant evidence for the impact of Theophrastus' *doxai* collection on the transmission. In fact things are less straightforward. It is above all his *Einquellentheorie*, the idea that Theophrastus' work is the sole source for the doxography on physics, which must be abandoned.¹⁵

There are several other considerations which make the Usener-Diels hypothesis no longer viable. Among the presuppositions already mentioned was the way in which certain titles were interpreted (e.g. ἱστορία as 'history' for φυσικὴ ἱστορία 'history of physics').¹⁶ There are

¹⁴ For a detailed treatment of this aspect of the comparison see Baltussen (2000a) 'Plato in the *Placita*: A Dielsian Blind Spot'.

¹⁵ See Mansfeld (1992a), (1994a), Runia (1996). More work on this important implication is forthcoming in Mansfeld-Runia, *Aëtiana* vols. 2-3 and my commentary on fr. 224-45 FHSG.

¹⁶ Cf. Usener (1858) 26-27; cf. *DG* 102-3 where a distinction is made between φυσικῆς ἱστορίας (i.e. Phys.Op.) and *HP*: 'alio sensu ab ipso histor. plant. I 1 4 στορία τῶν φυτῶν scrutatio plantarum dicitur cf. IV 1 5, V 1 1'. It seems that the

in addition more modern misunderstandings about Diels' new coinage for the genre, the term *doxography* (from *doxographus* probably invented in opposition to *biographus*, *DG* 114, cf. 146, 167, 178, 225 and *DK* I, p. v). Despite its deserved success, the term has caused much confusion and has come to adopt a much wider sense than Diels intended.¹⁷ As I argued in Ch. 2, strictly speaking not even Theophrastus should be regarded as a doxographer in the sense Diels intended.¹⁸ The collecting of views on particular topics was for Aristotle and Theophrastus motivated by their own philosophical inquiries and characterised in the light of their views on 'opinion' in the context of dialectic (*endoxa*). It was for these reasons that I came up with the term 'critical endoxography'.¹⁹ This term represents much better the theory and practice of the early Peripatetic school, both as a refinement of the understanding of their procedure and as a label for the *doxai*-discussions of the pre-doxographical era.

In sum, the Usener-Diels hypothesis as it stands is in need of qualification. Their view of the different types of works written by Theophrastus was muddled. By failing to distinguish properly between his *Physics* and a collection of tenets they obscured the problem to some extent and misplaced a number of testimonia.²⁰ Furthermore, their

term *ἱστορία* did much to enhance this confusion, cf. Usener, 'Organisation der wissenschaftlichen Arbeit ...', *Preus. Jahrbücher* 53 (1853) 21 'Geschichte ... der Pflanzen'. Steinmetz states (1964: 348) that the term cannot mean 'Geschichte', but adds (351) that with the work on physics Theophrastus wrote 'zugleich die erste Geschichte der Philosophie'. Cf. Rose, *Arist. Pseudep.* (1863), 6 who speaks of 'libri philosophici historici'; Zeller, *Abh. d. Kön. Akad. der Wiss. zu Berlin (phil.-hist. Kl.)* (1877) 154 of 'Geschichte der Physik', Brandis (1860) 291n. 'historisch kritisch[en] Werk' and 'kritische Geschichte der älteren griechischen Philosophie' (291).

¹⁷ See Mansfeld (1998).

¹⁸ A doxography proper is just a list (though with special features, see Mansfeld-Runia 1997). It is not (or better: no longer) related to a systematic treatment of one doctrine. Note, for instance, that traces of criticism are slowly sifted out of the text when a compiler is copying it, whereas the philosophically interested excerptor would preserve and elaborate upon them. In fact, some traces of critical evaluation can still be found in book one of Aëtius, where it is said of Thales (I 2.2), Anaximander (I 3.3), Anaximenes (I 3.4), and Anaxagoras and Plato (I 7.7) that they are 'mistaken' (forms of the verb ἀμαρτάνειν, see *DG* 741 index s.v.; this point was already mentioned by Steinmetz, 1964: 338n.; O. Gigon, *Cicero und die Erneuerung der Philosophie*, 1969: 122, and fully exploited by Mansfeld, 1990b: 3206f., id., 1992b: 109). See also Aët. IV 19.3 and *DS* 24, 48. This term also occurs regularly in Aristotle as a verdict on views of others (*EN passim*; *Phys.* 213a24; *Top.* 125b20, *Metaph.* 1090b32, *De resp.* 474a18).

¹⁹ Ch. 2.1.3.

²⁰ Steinmetz (1964) 335.

choice of translating the Greek title Φυσικῶν δόξων (e.g. D.L. V 48) as *Physicorum opiniones* (“Opinions of physicists”), does not hold water, as Mansfeld has persuasively shown; the (nominative) form should be resolved as Φυσικαὶ δόξαι (“Opinions related to physics”).²¹ It is clear that we should take leave of the *Phys.op.* or reassess its supposed content and structure as envisaged by Usener and Diels.²² What should replace the hypothesis is not easily stated and will require further investigation.

An important step forward was made by P. Steinmetz.²³ He distinguishes more clearly between systematic and historical (or historiographic) works and thus is able to assign some fragments (from *Phys.op.*) to Theophrastus’ *Physics*. From the 23 fragments listed by Diels (*DG* 475-495) only 8 can be safely attributed to the *Physika*, whereas 3 should go to the *Physikai doxai*. Moreover, the rationale of the order of fragments, which Diels adopted from Usener, is not very clear. Steinmetz re-arranges the most important examples in what he believes to be their original order (all from *Simpl. In phys.* 22.27-28.27). From this he concludes (348f.) that these belonged to Theophrastus’ *Physics* taking the different forms of possible titles as reference to one work.²⁴ Steinmetz had to make the point of the title with so much emphasis, because Usener and Diels presumably regarded ἱστορία as ‘history’ instead of ‘inquiry’, and the titles found in the fragments as referring to one and the same work. But Steinmetz’ suggestion that the *DS* belonged to a ‘series of monographs’ grouped together under the title Φυσικῶν δόξαι in which the individual theories were reported and criticised is less convincing²⁵ and fails to see the implications of the titles found in *Phys.op.* fr. 5, 6a and 11.

²¹ Both the Greek and the nature of parallel titles force us to this conclusion (Mansfeld, 1990: 3057n). The crucial text is *Phys.op.* fr. 11 (Taurus *ap. Philop.*), see Mansfeld (1990b) 3206f. *id.* (1992b). Mansfeld’s argument is accepted by Sedley (1998: 345n35) as a “convincing defence of the title as (*On*) physical opinions, not (*On*) the opinions of physicists”.

²² I will continue to use the abbreviated title *Phys.op.* for reference, but will indicate whether a text belongs to the *Physics*. For some useful remarks on related issues in connection with the catalogue in D.L. see Sharples (1998).

²³ See Ch. 3, n. 37. For a summary of his arguments see Runia (1992) 117f.

²⁴ He rejected *Phys.op.* fr. 12, 16 and 21 (*op.cit.*, 336) and assigned 1-5, 6a (2), 13 to the *Physics*, which could appear under the titles ἱστορία περὶ φύσεως, φυσικὴ ἱστορία, τὰ φυσικά (e.g. as ἐν τοῖς Φυσικοῖς); see Steinmetz (1964) 349f.

²⁵ His reconstruction of the *Physika* also fails to convince, cf. Gottschalk (1967) 19-20 and Mansfeld (1989) 157 n.49.

Since evaluating the options for labelling *DS* as a type of work would take much longer than can be done here, we may briefly state a general characterisation as a working hypothesis: the *DS* seems to be a collection of views which originally served the purpose of mapping out all known and relevant proposals for explaining the mechanics and causes of perception from a physiological point of view. The work is no doubt to be classed as of the *hypomnematic* type²⁶, because it lacks a systematic context, shows signs of an unpolished structure, and the reports often reflect the order of the sources. This is not to say that it is incomplete nor that it was used for this purpose only. Such a work may very well have been a *preparation for (but not necessarily a prologue to)* the exposition of Theophrastus' own doctrine. I have recently argued that this is one of several possible purposes the text may have served.²⁷

The main challenge now seems to be to relate *DS* to other work (apart from the *Placita*) in order to gain insight in its place and influence. Here we should think of all the evidence in the Theophrastean corpus (titles, fragments, complete works) as well as later testimonies, reminiscences and echoes. Both these categories might help us put the treatise into perspective. The first category should enable us to look at the question as to what extent it is feasible to see *DS* as a collection of views and objections to be drawn from in research. The latter category might give a better impression of the diverse routes by which such a collection was transmitted, thus showing its direct and indirect influence, but also how difficult it often is to infer anything from such traces. And finding these later traces is of course in itself extremely difficult, since echoes may be very faint to the extent that they will be hardly recognizable at all.²⁸ I have pointed to one or two examples to highlight this problem and to show that the relationship between *DS* and other works (e.g. *CP*) is not simply one of 'quarry of information' and systematic exploitation.²⁹

²⁶ On this type of work see e.g. Dorandi (1991). The topic is not much discussed; I note that the *Oxf. Class. Dict.* ³1996 has no lemma on "hypomnēma".

²⁷ Baltussen (1998).

²⁸ We should not forget that modern fragment collections mostly contain *named* fragments (this also holds for *FHSG*). As source acknowledgement is hardly a rule in antiquity (and in the case of indirectly transmitted material next to impossible) some of the traces of the work may be hard to find. For a case-study of this problem see my forthcoming paper on the early reception of *DS* (Baltussen 2001).

²⁹ On *DS* 84 vs. *CP* 6.1 see Ch.4 p. 115f. (discussion of flavors (3)(c)); on *DS* 35 vs. *CP* 6.5.3 see Ch. 5.3.2 (Anaxagoras objection no. 5.b); on *DS* 60 vs. *CP* 6.1.2 see

In view of these considerations and in spite of the considerable new insights presented at intermediate stages of the analysis, our final conclusion regarding the question of the status of the treatise had to be a rather modest one. What we can say with some certainty is that we may regard the *DS* as a fairly complete text — which does not exclude the possibility that it was part of a larger context. This makes it a fragment in the sense that it may have formed a whole with and a continuation of a survey of views on the soul.³⁰ As to the question what it was a part of, the evidence is inconclusive. If pressed one would be tempted to attribute the *DS* to the *Physikai doxai* (as characterised in recent research). Though this seems to fit the available evidence better than any alternative, it must remain a hypothesis.

p. 228. Gottschalk (1967) 20n. points to *Metaph.* 12, 34; *Ignē* 52; *Od.* 64 as examples of doxai in systematic contexts.

³⁰ If a parallel with Aristotle's *De an.* and *De sensu* is valid, the preceding sentence may have been similar to what we find in e.g. *De an.* A.2 (cf. Quandt *op.cit.*, Ch. 2, n. 60).

APPENDIX A: TEXTUAL PROBLEMS

Section 1: Some textual problems in the DS

(i) **DS 1 Ἡρακλειτον** Philippson (1831, 165) changed it into Democritus, which is unlikely to be correct (D. is discussed later in *DS* 49 ff.); James Longrigg (1975, 163-5) tried to argue that we should read Herakleides of Pontus which is unnecessary [rejected by Sassi (1978) 6 n.6]. Against doubts that Theophrastus discussed Heraclitus at all see the meteorological fr. in D.L. IX. 9-10.

(ii) **DS 7 (καὶ ὕδωρ)** (*DG* 500.24) The addition of ὕδωρ (Diels after Karsten) is also accepted by K. von Fritz (1953) 88 n.23.

(iii) **DS 9 κώδωνα** (*DG* 501.13) Diels notes in *app.* to DK 31A86 (I p. 302): “Nicht Trompete wie [Ar.] *Probl.* 33,14 p. 963a1, sondern Glocke wie Philoponus *In de an.* 355.17; 31 A 93”. Parallels (from *LSJ*) point to the meaning of κώδων as both trumpet and bell. In the *Ajax* of Sophocles (l. 17; quoted by Stratton, n.36) the term is clearly used to designate the mouth of a trumpet. The Scholion *ad loc.* remarks: τὸ πλατὺ τῆς σαλπίγγος (cf. also Athen. 5, 185a, Pollux 2.203, [Ar.] *Probl.* 963a3, Ar. *De sensu* 446b22). Theophrastus uses the term twice (*DS* 9; 21) and does not seem to have any trouble in identifying it with an actual part of the sense of hearing (but see Diels *app.crit. ad loc.*). Modern scholarship is divided: Beare translates ‘gong’ (95f.). Stratton, who discusses the problem at some length, thinks Empedocles is speaking of ‘the bell of a trumpet’ and therefore rejects previous suggestions (Zeller: entire trumpet; Beare: gong; Aëtius: bell in the usual sense [= Long, 1966: 165]). Stratton suggests that it refers to the concha of the ear, but admits that the description in *DS* 21 does not reinforce such a proposal.

(iv) **DS 9 ὄζον** I think σάρκινον ὄζον can stand as a biological metaphor (rejected by Diels, Long, Longrigg; accepted by Wright 1981). I shall offer a more detailed argument for this view in a forthcoming paper (‘Empedocles’ Hearing Aid? A Note on DK 31B99’).

(v) **DS 23 εἰ γὰρ τῶν αὐτῶν** (*DG* 506.4) Perhaps we should read εἰ γ’ ἀπὸ τῶν αὐτῶν (but cf. Diels *ad loc.*).

(vi) **DS 37 ταύτης** Diels (*DG* to 503.33) referring to *De col.* 791b6 corrects ταύτης τῆς of the mss. (PF) into τοῦτου τὰς. Mugler (1966) retains ταύτης (sc. τῆς ὕψεως) τῆς χροῶς, but makes a minor adjustment *viz.* μετεχούσης, producing the reading closest to P.

(vii) **DS 38 μόνος** (*DG* 510.4) The remark about Clidemus’ idiosyncratic contribution concerning vision (“C. alone spoke with originality about vision”, tr. Stratton) is puzzling. The problem, I would think, lies in μόνος rather than ἰδιῶς. Stratton (n. 108) suggests to drop μόνος or to read μονῆς (after DK, 510, n.4).

(viii) **DS 53 ἐναλλάττω** (DG 514.20) Stratton translates “sending <impressions> across one another’s path”. But McDiarmid (1958: 292; cf. Burkert 1977: 101 n.), who points out that ἐναλλάττω means “cross; exchange; undergo”, prefers ἐπαλλάττω in the sense of “to alternate, interlock (cf. Th. *HP* 4.6.10); overlap (of classes)”. Contrast μεταλλάττω “transform” (DS 58).

(ix) **DS 68 σχήμασιν** (DG 519.8) etc. According to McDiarmid (1959a) it concerns Aristotle’s criticism of all previous thinkers to have neglected the matter of ‘figure’ (307b9-10). This is certainly at the background of three arguments in DS 68, 79, 87 — but only insofar as it expresses the demand for consistency (προσῆκει ἢ πάντα ἀφορισαὶ σχημασιν ἢ μὴδεν). Moreover, the text in GC, 307b7-8 is uncertain: in b7 τι, omitted by E, was added by the corrector (see apparatus: “suppl. E²”); in b8 of ES^P is read as in JH. Also, the phrase σχῆμα σχήματι is found in later mss. (see app. crit. Budé: “recc., quod et coni. Hayduck in S^P: σχήματι EJH”). We should compare Aristotle, *De sensu* 442b10, 19-20 on the same subject: σχῆμα δέ σχήματι οὐ δοκεῖ εἶναι ἐναντίον· τίτι γὰρ τῶν πολυγόνων τὸ περιφερὲς ἐναντίον; Aristotle clearly rejects the idea of a figure being contrary to another. [?cf. Plato, *Tht.* 182b1-7].

(x) **DS 71 μικροῦ PF | πικροῦ Schneider (DG 520.2) | νέκρον Philippson**: Philippson (1830) 142 and 217 cites Cicero *Tusc.* I. 34, 82 as evidence for the fact that νέκρον (DS 71) is the right reading; *quod non*. Stratton (n.166) rightly follows Diels and Taylor and decides on πικροῦ.

(xi) **DS 82 ἐν πᾶσιν** (DG 524.13): Diels changed the ms reading (after Schneider) into ἄπασιν (cf. DK II, p. 119.27), as we now know on the basis of a full survey of Theophrastus’ use of πᾶς (see Ehler, *Hermann Diels, ... Briefwechsel*. [Berlin 1992], 184).

(xi) **DS 84 χυμοῦς** (DG 525.6): συνάγοντα τοὺς χυμοὺς mss | χυλοὺς Stratton | πόρους Philippson, Beare 171 n.3. The passage refers to Plato, *Tim.* 65d2 (γῆνι μέρη κατατηκόμενα συνάγει τὰ φλέβια). That πόρους is probably the correct reading can now be substantiated, as J. Whittaker, *ANRW* II 36.1 (1987) 104 has pointed out, with the help of the version in Alcinous *Didask.* 174.30 Hermann.

Section 2: A terminological problem in fr. 277B FHSG? A cautionary note.

τὸ διηχές-τὸ δίοσμον [FHSG, 277B-C]: These terms, which express the ‘affective’ motions (light, sounds and smells) transmitted to the sense organs, are attributed to Theophrastus, but look very much like commentator’s jargon [Cf. D. Sedley, ‘Three notes on Theophrastus’ Treatment of Tastes and Smells’, in *RUSCH* II (1985) 207, n. 4]. They are no doubt created in analogy with the “diaphanous” (τὸ διαφανές) which is an Aristotelian term. For example, air and water share the “transodorant” (τὸ δίοσμον), while the “transsonant” (τὸ διηχές) conveys sounds (but see further below on this term).

LSJ and a search on the TLG (CD-ROM) support this suspicion. The terms occur from the 2nd to the 6th c. AD (2nd: Plutarch, Alexander

Aphrod./3rd: Themistius; 5-6th: Simplicius, Philoponus, Priscian, Olympiodorus). When discussing the ‘transmitters of sounds and smells’ Themistius refers to them as a term of the commentators (ὀνομάζουσι δὲ οἱ ἐξηγηταὶ τὸ μὲν διηχές, τὸ δὲ δίοσμον, *In De an.* 62.32 Heinze; less specific is *ibid.* 69.9-10 πάθος κοινόν, ὃ καθάπερ ἔφην δίοσμον τινες ὀνομάζουσι). Unless he means the successors of Aristotle (early Peripatetics), this could refer to later commentators (e.g. the scholastic exegetes of the Roman period and after). Confirmation for this is perhaps the remark in Alexander of Aphrodisias (*In De sensu* 89.2 Wendland; *In De an.* 51.20; 53.5). The former passage (ἦν ἀνάλογον ἂν τις δίοσμον ὀνομάζοι) could indicate that δίοσμον is Alexander’s own formation from analogy (cf. also Alex. *De an. libri Mant.* 123.22; *id.* Ἀπορίαι καὶ Λύσεις 7.10). Simplicius also uses it as a term common among commentators (*In De an.* 154.8 Hayduck ὁ δίοσμον καλοῦμεν; n.b. Alexander uses exactly the same phrase at *In De sensu* 53.5).

These passages undermine Philoponus’ remark that Theophrastus coined the phrase δίοσμον [*FHSG*, 277C]. He may have misunderstood his source (?Alexander [cf. Philop. *In De an.* 253.3, where Alexander is mentioned just before the terms occur] or ?Priscian, *Metaphr.* [*FHSG*, 277B, very similar to 277C]). It should be noted that Philoponus often uses all three terms closely together (not so Alexander) and mostly in adjective form (*In De an.* 353.12, 13, 20; 354.10, 14; 390.31 etc.; cf. *De opif. mundi* 207.10; 211.18). Pamela Huby has pointed out to me (*per litt.*, 15.08.96) that τὸ διηχές probably is Aristotle’s term, as it is used in the excerpt of Arius Didymus *ap.* Stobaeus (484.15-21). I admit that this is indeed likely, but it does not help with the other problematic aspects sketched above. See now Huby 1999.

Section 3: A (textual) problem in Aristotle’s Topika ?

Aristotle, *Top.* A.1, προβλήματος: J. Brunschwig, *Les Topiques*, 1967, p. 1 (and n. 4 on p. 114) deletes προβλήματος here for several reasons; but his argument that the word was not very common is contradicted by Aristotle’s remark in *Top.* A.11. Furthermore, that Alexander, *In Top.* 5, 23 leaves it out can hardly be decisive: see *In Top.* 7, 1; 7, 4 where the complete phrase *does* occur.

A. Zadro, *Aristotele. I Topici*, (1974, p. 310 f.) is also surprised that Brunschwig after praising Alexander as a trustworthy source then holds that there is an interplay of glosses between Alexander’s text and the ms. L. But Zadro still wants to delete *problēma* here [followed by Beriger (1989) p. 28 n.] and argues that not the paleographical evidence should be decisive, but the consideration that the phrase περὶ παντὸς τοῦ προτεθέντος προβλήματος is too limited (“troppo limitativo”, 311; his reference to K.-G. I, 631 ff. is rather puzzling). I find neither argument very compelling: dialectical reasoning is primarily about *problemata* (*Top.* A.4, 101b16f.) and Alexander (*In Top.* 5-7) seems to use the two phrases as equivalent expressions (which also seems to be supported by e.g. *Soph.El.* 183a38 περὶ τοῦ προβλήθεντος).

APPENDIX B: A BIBLIOGRAPHY ON THEOPHRASTUS' *DE SENSIBUS*

The present list makes the one in Flashar (1983) 489-90 redundant. It contains (a) general literature on perception, and (b) a *chronological* list of publications pertaining directly or indirectly to the *DS*.

(a) *General Literature on Perception*

- Beare, J. I., 1906, *Greek Theories of Elementary Cognition from Alcmaeon to Aristotle*, Oxford, Oxf. Clar. Press (Repr. Dubuque, Iowa [?] 1970), and Thoemmes Press, Bristol 1992).
- Capelle, W., 1958, 'Farbenbezeichnungen bei Theophrast', *RhM* ci, 1-41.
- Gottschalk, H.B., 1964, 'The De Coloribus and Its Author', *Hermes* 92, 59-85.
- Guthrie, W.K.C., *HGPh* vol. I, 348-57 (Alcmeon); 429-32 and 459 ff. (Heraclitus).
- , (1965) vol. II, 17 ff., 67-70 (Parmenides); 228 ff. (Empedocles); 315-322 (Anaxagoras); 373-81 (Diogenes); 438-465 (Democritus).
- , (1978) vol. V, *The later Plato and the Academy* (73 ff., 313-19 Plato).
- Hamlyn, D.W., 1961, *Sensation and Perception: A History of the Philosophy of Perception*. New York: Humanities Press; London: Routledge & Paul.
- Heidel, W.A., 1906, 'Qualitative Change in Presocratic Philosophy', *AGPh* 19, 333-379.
- Movia, Giancarlo, 1968, *Anima e intelletto: ricerche sulla psicologia da Teofrasto a Cratippo*. Padova : Antenore, 1968 * 238 p. (Pubblicazioni dell' Istituto di Storia della Filosofia N.S. 2).
- Müller, C.W., 1965, *Gleiches zu Gleichem. Ein Prinzip frühgriechischen Denkens* (Wiesbaden).
- Poppelreuter, H., *Zur Psychologie des Aristoteles, Theophrast und Strato* (Diss. Leipzig, 1892).
- Saint-Pierre, B., 'La physique de la vision dans l'antiquité', *Cahiers des Études Anciennes* V (1976) 97-117. [*non vidi*]
- Tannéry P., 1930, *Pour l'histoire de la Science Hellène* (Paris, Gauthier-Villars et Cie, deuxième éd. par A. Diès; ¹1887), (appendice) 348-380 [French translation of *DS*].
- Torraca, L., 1961, *I Dossografi Greci* (Padova) [Ital. transl. of *DS* on pp. 281-313].
- Young (1988) J. Z. Young, *Philosophy and the Brain* (Opus Oxford Paperback; ¹1986).

(b) *De Sensibus (chronological order)*

- 1497**, 1516, f. Prisciani liber de sensu Theophrasti | Marsilii Ficini Florentini expositio in interpretationem Prisciani Lydi super Theophrastum [source: Hoffmann III, 534; Jamblichus, B. 1]; “Auch in Ficini Opera., Tom. II p. 1801-1844 Tom. I p. 924 (Prooemium) [ed. P.O. Kristeller, Facs. Torino 1962].
- [1536 Victor Trincavelli; apocryphal *editio princeps*, text mentioned in index, but missing, see Ch. B. Schmitt (1975) 275f.; I have checked two editions myself and can only agree.]
- 1552** [editio princeps] J.B. Camotius (ed.), theophrasti historiam de plantis et de causis plantarum et quosdam alios ipsius libros continens tomus vi (De sensibus, pp. 483-511).
- 1557** H. Stephanus, ARISTOTELIS ET THEOPHRASTI SCRIPTA QUAEDAM, Paris (pp. 17-46). [*non vidi*]
- 1560?** Sanctucius (Biblioteca Nazionale, Florence: Magliab. XII, 10, paper, saec. XVI) [Latin translation based on Stephanus, see McDiarmid (1962), p. 5, 18f.]. [*non vidi*]
- 1575** Dalechampius, Jacobus [Latin translation] (Manuscript: BN. Lat. 11, 857) [source: Ch.B. Schmitt, *Gesnerus* 26 (1969), 36 ff./ *id.*, (1971) 257f.].
- 1640** Meursius, Joannes, *Theophrastus, Sive De illius libris, qui iniuria temporis intercederint*, liber singularis Lugd. Batav. ex officina Elzeviriana. [includes Ioannis Meursii Lectiones]. [*non vidi*]
- 1818-1821** Schneider, I. G., *Theophrastou Eresii ta soozomena*. Theophrasti Eresii quae supersunt opera et excerpta librorum quatuor tomis comprehensa [DS in vol. I, 647-685]. Ad fidem librorum editorum et scriptorum emendavit coniuncta opera D.H.F. Linkii excerpta solus explicare conatus est Io. Gottlob Schneider, saxo. ...
- 1831** Philippson, L., *Hylê Anthrôpinê*. scripsit et edidit Ludovicus Philippson, Berolini (*Pars I*: De internarum humani corporis partium cognitione Aristotelis cum Platonis sententiis comparata. *Pars II*: Philosophorum veterum usque ad Theophrastum doctrina de sensu. *Theophrasti de sensu et sensibilibus fragmentum historico-philosophicum*. Aristotelis de sensibus doctrina. Theophrasti fragmenta de sensu, phantasia et intellectu e Prisciani Metaphrasi primum excerpta).
- 1843** Baumhauer, E.J.C., (Specimen inaugurale continens) *Sententias veterum philosophorum graecorum de visu, lumine et coloribus* (Trajecti ad Rhenum, typis mandavit N. van der Monde) (Diss. Utrecht 1843, esp. 98 ff.) [source: Diels, *DG* 118].
- 1849** Prantl, C., *Aristoteles. Ueber die Farben* (München: Kaiser).
- 1858** Usener, H., *Analecta Theophrastea*. Theophrasti De Physicorum Opinionibus Reliquiae. Bonn. [= *Kleine Schriften* I, Leipzig. 1912 (n.dr. Osnabruck 1965), 50-87].
- 1866** Wimmer, Fr., *Theophrasti Eresii Opera, quae supersunt omnia* Parisiis, Firmin-Didot (Unveränderter Nachdr., Frankfurt am Main: Minerva GMBH, 1964), pp. 321-340.

- 1879** Diels H., *Doxographi Graeci*. Berlin (4th ed. 1965), 499-527.
- 1881/82** Wilson John C., (short notes on Xenophon, Plato, Theophrastus' De sensu), *Transactions of the Oxf. Philol. Society*, 10-13 [De sens. 90].
- 1887** Diels H., 'Leukippos und Diogenes von Apollonia', *RhM* xliii 1-14 (esp. 8 ff.)
- 1902** Brieger, A., 'Demokrits angebliche Leugnung der Sinnwahrheit', *Hermes* 37, 56-83.
- 1906** Beare J.I., *Greek Theories of Elementary Cognition from Alcmaeon to Aristotle*, Oxford, Oxf. Clar. Press (Repr. Dubuque, Iowa, Brown Repr. Library [? 1965], viii & 354 p.)
- 1907** Haas, A. E., 'Antike Lichttheorien', *AGPh* xx, 345-386.
- 1909** Hammer-Jensen, I., 'Demokrit und Platon', *AGPh* xxiii, 92-105; 211-229.
- 1911** Dickermann, Sh.O., 'Some stock illustrations of animal intelligence' [De sens. 25], *Transactions of the American Philological Association* XLII, 123-130.
- 1912a** Shorey, P., 'Emendation of De sens. 64. Diels' Vorsokratiker 375,44', *Classical Philology* 7, 485-86.
- 1912b** Kranz, W., 'Die ältesten Farbenlehren der Griechen', *Hermes* 47, 126-140.
- 1913a** Kafka G., 'Zu Theophrasts De Sensu', *Philologus* LXXII, 65-82.
- 1913b** Lackenbacher, Hans, 'Beiträge zur antiken Optik', *Wiener Studien* 35, 34-61.
- 1915** English, Robert B., 'Democritus' Theory of Sense-perception', *TAPhA* 46, 218-221.
- 1917** Stratton George M., *Theophrastus and the Greek Physiological Psychology before Aristotle*, London, George Allen & Unwin Ltd. (Unchanged Reprint, Amsterdam, B. Grüner, 1964). 227 p. [comm. by Stratton and prof. A.E. Taylor].
 REVIEWS: *JHS* 38 (1918) 205 J.H.S. / *ClRev* 32 (1918) 117-120 C. Allbutt / *ClJ* 14 (1918/19) 75-77 W.A. Heidel / *CW* 12 (1918) 144 Knapp.
- 1924** Gomperz H., 'Psychologische Beobachtungen an griechischen Philosophen', *Imago* 10, 1-92.
- 1927** Schottlaender, R., 'Drei Vorsokratische Topoi', *Hermes*, 62, 435-446 [438 ff. on *DS* 25].
- 1930a** Jablonski, W., 'Die Theorie des Sehens im griechischen Altertume bis auf Aristoteles. (Zur Geschichte der Theorie des Sehens, 1)', *Südholfs Archiv. Zeitschrift für Wissenschaftsgeschichte* 23, 306-331.
- 1930b** Tannéry, P., 1932 (translation) [see (a)]
- 1938** Weiss, Helene, 'Democritus' Theory of Cognition', *ClQ*, 47-56.
- 1940** Regenbogen, O., [On the De sensibus], in: *RE*, Suppl. 7, 1399-1401; 1536-37.
- 1941** Thompson, G.R., *Theophrastus on Plant Flavors and Odors: Studies on the philosophical and Scientific significance of 'De causis plantarum' VI*, accompanied by translation and notes (Diss. Princeton); esp. ch. iv, pp. 107-144.

- 1942** Verdenius, W.J., *Parmenides. Some Comments on his Poem* (Diss. Utrecht, Wolters/Groningen), esp. Appendix G: "Like things being known by like".
- 1943** Waerden, B.L. van der, (§8 from the article 'Die Harmonielehre der Pythagoreer', viz.) 'Der Schall als Vielheit von einzelnen Luftsten', in: *Hermes* 78, 192-199.
- 1948** Verdenius, W.J., 'Empedocles' Doctrine of Sight', *Studia Varia C.W. Vollgraff a discipulis oblata* (Amsterdam, 1948), pp. 155-164.
- 1951a** Drossaart-Lulofs, 'Theophrastus [De sens.]' in: *Oudste Christendom en de antieke cultuur* (Haarlem, red. J.H. Waszink / v. Unnik), I, 268 ff.
- 1951b** Mugler 'Sur quelque fragments d' Empédocle', *Revue de Philos.* xxv, 33-65.
- 1953a** McDiarmid, J.B., 'Theophrastus on the Presocratic Causes', *HSCPh* 61, 85-156.
- 1953b** Fritz K. von, 'Democritus' theory of vision'. In: *Science, medicin and history* (Essays on the evolution of scientific thought and medical practice, written in the honour of Ch. Singer), Oxf. Univ. Pr., 83-99.
- 1958** McDiarmid John B., 'Phantoms in Democritean Terminology: περιπάλαξις and περιπαλάσσεσθαι', *Hermes* 86, 291-298.
- 1959a** —, 'Theophrastus' *De sens.* 66: Democritus' explanation of salinity', *American Journal of Philology* 80, 55-66.
- 1959b** —, 'Plato in Theophrastus' *De sensibus*', *Phronesis*, iv, 59-70 [*De sens.* 83; 88].
- 1959c** Siegel, 'Theories of vision and colour of Empedocles and Democritus; some similarities to the modern approach', *Bull. Hist. Med.* 33, 145-159.
- 1960** McDiarmid John B., 'Theophrastus' *De sens.* 61-62: Democritus' theory of weight', *Classical Philology* 55, 28-30.
- 1961a** Weische A., *Cicero und die neue Akademie. Untersuchungen zur Entstehung und Geschichte des antiken Skeptizismus* (Münster) [on *De sens.*: pp. 65-67; 73-78].
- 1961b** Torraca (translation) [see section (a) above].
- 1962** McDiarmid John B., 'The Manuscripts of Theophrastus' *De Sensibus*', *Archiv für die Geschichte der Philosophie* XLIV, 1-32.
- 1963** Frenkian A., 'Theophrast De sensu kap.10', *Philologus* cvii, 313.
- 1966a** Long A.A., 'Thinking and sense-perception in Empedocles: mysticism or materialism?', *ClQ* n.s. xvi, 256-276.
- 1966b** Mugler Ch., 'Sur deux propositions optiques de Théophraste', *L'Antiquité Classique* xxxv, 594-96.
- 1967** Taylor, C.C.W., 'Pleasure, Knowledge and Sensation in Democritus', *Phronesis* 12, 6-27.
- 1968** Koelbing H. M., 'Zur Sehtheorie im Altertum: Alkmaeon und Aristoteles', *Gesnerus* 25, 5-9.
- 1969a** Okal M., 'Le sens des expressions utilisées par Démocrite pour désigner les goûts' [en tcheque, résumé en francais], *Listy Filologické* XCII, 208-222.

- 1969b** Somigliana, A., 'Come interpretare in Parmenide l'equivalenza tra "sentire" e "pensare"', *Sophia* xxxvii, 83-86.
- 1969c** Schmitt, C.B., 'Some notes on Jacobus Dalechampius and his translation of Theophrastus', *Gesnerus* xxvi, 36-53 [cf. Schmitt, 1975?].
- 1970a** O'Brien, D., 'The Effect of a Simile: Empedokles' Theory of Seeing and Breathing', *JHS* 90, 140-179.
- 1970b** Cooper, J. M., 'Plato on Sense-perception and Knowledge: Theaet. 184-186', *Phronesis* 17, 123-146.
- 1970c** Hershbell, J. P., 'Parmenides' Way of Truth and B16', *Apeiron* 4-2, 1-23 [Repr. in J.P. Anton/ A. Preus (eds), *Studies in Ancient Greek Philosophy*, vol 2 (1983), 41-58].
- 1971** Wisniewski, B., 'La Théorie de la connaissance d' Anaxagore', *Rivista di studi classici* 19, 5-9.
- 1972** Andriopoulos, D. Z., 'Empedokles' Theory of Perception', *Platon* 24, (Athen 1972), 290-98. [*non videt*]
- 1974a** Hershbell, J. P., 'Empedoclean Influences on the Timaeus', *Phoenix* 26, 145-166.
- 1974b** Marcovich, M., 'Theophrastus, De sensibus 80', *Živa Antika* (Antiquité vivante) 24, p. 42.
- 1975a** Baldes, R. W., 'Democritus on Perception of Size and Distance', *Classical Bulletin* LI, 42-44.
- 1975b** ———, 'Democritus on Visual Perception: Two Theories or One?' *Phronesis* XX, 93-105.
- 1975c** Longrigg, J., 'Two notes on Theophrastus' de sens.', *Philologus* CXIX, 163-69.
- 1975d** Lloyd, G.E.R., 'Alcmaeon and the early History of Dissection', *Südhoffs Archiv. Zeitschrift für Wissenschaftsgeschichte*, 59, 113-147.
- 1976a** Baldes, R.W., 'Theophrastus' Witness to Democritus on Perception by Similar and Contraries', *Apeiron* X, 42-48.
- 1976b** Löbl, R., *Demokrits Atomphysik* (Wissensch. Buchgesellschaft, Darmstadt 1987; 1st. ed. Diss. 1977).
- 1977a** Burkert, W., 'Eidola. Demokritus' Aetiology of Vision', *Illinois Classical Studies*, II, 7-109.
- 1977b** Suzuki, M., 'Preface to Empedokles', *Journal of Classical Studies* (Kyoto) XXV, 20-31.
- 1978a** Sassi, Maria M., *Le teorie della percezione in Democrito* (Firenze, La Nuova Italia). [Note: Despite the title S. discusses also extensive portions of the *DS* not concerned with Democritus].
- 1978b** Baldes, R.W., 'Democritus on the nature of "black" and "white"', *Phronesis*, XXIII, 87-100.
- 1978c** Hahm, D., 'Early Hellenistic Theories of Vision and the Perception of Color' in: Machamer P.K. & Turnbull R.G. (eds), *Studies in Perception. Interrelations in the History of philosophy and science* (Columbus Ohio State Univ. Press, ix & 597 p.), 60-95.
- 1979** Maxwell-Stuart, P. G., 'Democritus on the colour white', *Liverpool Classical Monthly* iv-9, 197-98.

- 1981** O'Brien, D., *Theories of Weight in the Ancient World, 1: Democritus Weight and Size* (Leiden, Brill), see esp. 115-150; 253-260; 298-302 and index s.v. [N.B. O'Brien is mistaken (p. 400) in regarding the edition of H. Stephanus 1557 as the *editio princeps*].
- 1983a** Wehrli, F., 'Theophrastus, περὶ αἰσθήσεων', in: H. Flashar (1983) 489-90.
- 1983b** Silvestre Pinto, M. L., 'La sensazione spiegata coi principi della fisica. La testimonianza di Teofrasto su Democrito' in: *Democrito. Dall'atomo alla città* (a cura di Casertano G.: Skepsis Collana di testi e studi di filos. ant. I, Napoli Loffredo), 101-134.
- 1983c** Laks, André, *Diogène d'Apollonie. La dernière cosmologie présocratique*. (édition, traduction et commentaire des fragments et des témoignages/ Cahiers de Philologie volume 9, Presses Universitaires de Lille), [*De sens.* 39-45], 106-137.
- 1984** O'Brien, D., 'Théories Atomistes de la Vision: Démocrite et le Problème de la Fourmi Céleste', in: *Proceedings of the 1st International Congress on Democritus* (Xanthi 6-9 October 1983), 27-57 [Aristotle, Theophrastus, Lucretius].
- 1984** —, *Theories of Weight in the Ancient World, 2: Plato's Timaeus* (Leiden, Brill).
- 1985a** Sharples, R. W., 'Theophrastus on Tastes and Smells', in: W.W. Fortenbaugh (ed.), *Theophrastus of Eressos*. (Rutg. Stud. vol. II), 183-204.
- 1985b** Sedley, D., 'Three notes on Theophrastus' Treatment of Tastes and Smells', in *RUSCH* II (1985) 205ff.
- 1986** Finkelberg A., 'Like by like and two reflections of reality in Parmenides', *Hermes* 114, 405-12.
- 1988** Laks, A., [Parmen. in DS 3-4] *Parole del Passato*, 43 (1988) 261 ff.
- 1992a** Baltussen H., 'Peripatetic Dialectic in the De sensibus', *RUSCH* V, 1-19.
- 1992b** Sedley D., 'Empedocles' Theory of Vision and Theophrastus' *De sensibus*', *RUSCH* V, 20-31.
- 1993** Viano C., 'L' applicazione dei principi dell' ὁμοιον e dell' ἐναντίον nell' argomentazione dossografica del *De sensibus* di Teofrasto', in: A.M. Battagazzore (ed.), *Dimostrazione, Argomentazione Dialettica e Argomentazione Retorica nel Pensiero Antico* (Atti del Convegno di filosofia, Bocca di Magra 18-22 marzo 1990), 429-440.
- 1996a** Long, A.A. 'Theophrastus' De sensibus on Plato', in Algra, K.A. – P. van der Horst – D.T. Runia (eds) *Polyhistôr. Papers offered to J. Mansfeld on the occasion of his sixtieth birthday* (Leiden) 345-362
- 1996b** Mansfeld, J. 'Aristote et la Structure du De sensibus de Théophraste', *Phronesis* 41 (2), 158-187
- 1998** Baltussen, H. 'The Purpose of Theophrastus' De sensibus Reconsidered', *Apeiron* 31 (2), 167-200.
- 2000a** Baltussen, H. (= Baltussen 2000a, main bibliography)
- 2000b** Ganson, T.S. (= Ganson 2000, main bibliography)
- 2001** Baltussen, H. (= Baltussen 2001, main bibliography)

APPENDIX C: (QUALIFIED) *DOXA* IN THEOPHRASTUS
[Source: Pandora/TLG CD ROM 'D']

(i) References to Plato [TEXT 1-3; TESTIMONIA 4-16]

1. *Metaph.* 6b11, 11a27, 11b1;
2. *CP* 6.1.4;
3. *DS* 1, 4, 59, 60, 81-92.

4. Simplicius, *In Phys.* 18.29-34 Diels (cf. *Tim.*29c): Καλῶς ὁ Πλάτων τὴν φυσιολογίαν εἰκοτολογίαν ἔλεγεν εἶναι, ᾧ καὶ Ἀριστοτέλης συμμαρτυρεῖ, τὴν κυρίως ἀπόδειξιν ἐξ ἀμέσων καὶ ἀξιοπίστων ἀρχῶν καὶ ἐκ τῶν κυρίως αἰτίων καὶ τῇ φύσει προτέρων εἶναι βουλόμενος. Ἄλλ' οὐκ ἀτιμαστέον διὰ τοῦτο φυσιολογίαν, ἀλλ' ἀρκεῖσθαι χρὴ τῷ κατὰ τὴν ἡμετέραν χρῆσιν καὶ δύνανμιν ὡς καὶ Θεοφράστῳ δοκεῖ.

5. Simplicius, *In phys.* 26.5-15 Diels: Ὁ μέντοι Θεόφραστος τοὺς ἄλλους προῖστορήσας "Τούτοις" φησὶν "ἐπιγενόμενος Πλάτων τῇ μὲν δόξῃ καὶ τῇ δυνάμει πρότερος τοῖς δὲ χρόνοις ὕστερος καὶ τὴν πλείστην πραγματείαν περὶ τῆς πρώτης φιλοσοφίας ποιησάμενος ἐπέδωκεν ἑαυτὸν καὶ τοῖς φαινομένοις ἀψάμενος τῆς περὶ φύσεως ἱστορίας, ἐν ᾗ δύο τὰς ἀρχὰς βούλεται ποιεῖν τὸ μὲν ὑποκείμενον ὡς ὕλην ὃ προσαγορεύει πανδεχές, τὸ δὲ ὡς αἴτιον καὶ κινεῖν ὃ περιάπτει τῇ τοῦ θεοῦ καὶ τῇ τοῦ ἀγαθοῦ δυνάμει". ὁ μέντοι Ἀλέξανδρος ὡς τρεῖς λέγοντος τὰς ἀρχὰς ἀπομνημονεύει τὴν ὕλην καὶ τὸ ποιοῦν καὶ τὸ παράδειγμα.

6. Simplicius, *In phys.* 700.16-19 Diels: Ἀδηλον οὖν καὶ τὸ τί ἐστίν, εἴπερ οἱ μὲν τὴν τοῦ ὅλου κίνησιν καὶ περιφορὰν τὸν χρόνον εἶναι φασιν, ὡς τὸν Πλάτωνα νομίζουσιν ὃ τε Εὐδήμος καὶ ὁ Θεόφραστος καὶ ὁ Ἀλέξανδρος.

7. (Iamblichus *ap.*) Simplicius, *In Categ.* 346.14-16 Kalbfleisch: Πλάτων [ν Στράτων *JLKA*] μὲν γὰρ τὸ ποσὸν τῆς κινήσεως εἰπὼν τὸν χρόνον ἀχώριστόν τι αὐτὸν ὑπέθετο τῆς κινήσεως, Θ. δὲ συμβεβηκός τι ...

• *FHSG* prefer Στράτων.

8. Taurus *ap.* Philopon. *Adv. Procl.* vi 8. 27: Καὶ Θεόφραστος μέντοι ἐν τῷ Περὶ τῶν φυσικῶν δοξῶν κατὰ Πλάτωνά φησι γενητὸν τὸν κόσμον καὶ οὕτω ποιεῖται τὰς ἐνστάσεις, παρεμφαίνει δὲ ὅτι ἴσως σαφηνείας χάριν γενητὸν αὐτὸν ὑποτίθεται.

9. Taurus *ap.* Philopon. *Adv. Procl.* vi 21. 27. 5 : Ὁ δὲ Θεόφραστος εἰπὼν ὅτι "τάχ' ἂν γενητὸν λέγοι σαφηνείας χάριν, ὡς καὶ τοῖς διαγράμμασι παρακολουθοῦμεν γινομένοις" φησί· "πλὴν ἴσως ἡ γένεσις οὐχ ὁμοίως ἔχει καὶ ἐπὶ τῶν διαγραμμάτων"

10. Taurus *ap.* Philopon. *Adv. Procl.* xiii 15 (i 8 W)· Ὁ δημιουργὸς ἤρχετο τῆς συστάσεως τοῦ κόσμου ἐκ πυρὸς καὶ γῆς. δεῖ δὲ τὸ γενησόμενον σωματοειδές

ἀντιτυπικὸν εἶναι καὶ ὁρατὸν ... Θεόφραστος φησιν "εἰ τὸ ὁρατὸν καὶ τὸ ἀπτόν ἐκ γῆς καὶ πυρός ἐστι, τὰ ἄστρα καὶ ὁ οὐρανὸς ἔσται ἐκ τούτων· οὐκ ἔστι δέ". ταῦτα λέγει εἰσάγων τὸ πέμπτον ...

11. Plutarch, *Quaest. Platon.* viii 1 p. 1006c (cf. nr 14): Θεόφραστος δὲ καὶ προσιστορεῖ τῷ Πλάτῳ πρεσβυτέρῳ γενομένῳ μεταμέλειν ὥς οὐ προσήκουσαν ἀποδόντι τῇ γῇ τὴν μέσσην χώραν τοῦ παντός.

12. [Philo], *De aetern. mundi* 26-7: εὐδαίμονας τὸ πάλαι γενομένας πολλῇ τοῦ πελάγους ἐπικλυσθῆναι φορᾷ. ἡ δ' 125 Ἀτλαντὶς νῆσος, "ἅμα Λιβύης καὶ Ἀσίας μείζων", ἥ φησιν ἐν Τιμαίῳ Πλάτῳ, "ἡμέρα μιᾷ καὶ νυκτὶ σεισμῶν ἐξαισίων καὶ κατακλυσμῶν γενομένων δῦσα κατὰ τῆς θαλάσσης ἐξαίφνης ἠφάνισθη", γενομένη πέλαγος οὐ πλωτὸν, ἀλλὰ βαρὰ θρώδες, οὐδὲν οὖν εἰς τὸ φθεῖρεσθαι τὸν κόσμον ἢ πλασθεῖσα τῷ λόγῳ μείωσις τῆς θαλάττης συνεργεῖ· φαίνεται γὰρ ὦν μὲν ἐξαναχωροῦσα, τὰ δ' ἐπικλύζουσα. 130 ἐχρῆν δὲ μὴ θάτερον τῶν γινομένων, ἀλλὰ συνάμφω θεωροῦντας ἐπικρίνειν, ἐπεὶ κὰν τοῖς περὶ βίον ἀμφισβητήμασιν ὁ νόμιμος δικαστὴς πρὶν καὶ τῶν ἀντιδίκων ἀκοῦσαι, γνώμην οὐκ ἀποφανεῖται.

• Cf. Runia (1986) 81-84

13. Procl. *In Platonis Tim.* 120.8-22 Diehl (p. 416 Schneider) Καὶ τῶν παλαιῶν τινες ἐπέπληξαν τῷ Πλάτῳ λέγοντες ὥς "οὐκ ὀρθῶς ἀρχὴν ἀρχῆς ἐπιζητεῖ καὶ γένεσιν ἀγενήτου πράγματος· εἰ γὰρ καὶ τῶν πρώτων τὰ αἷτια ζητήσομεν καὶ τῶν αὐθυποστάτων γενέσεις ἐπινοήσομεν, εἰς ἄπειρον προϊόντες λησόμεθα καὶ τέλος οὐδὲν ἔχον τῆς θεωρίας· ὥσπερ γὰρ ὁ πάντα ἀποδεικτὰ νενομικῶς αὐτὴν μάλιστα τὴν ἀπόδειξιν ἀναιρεῖ, τοῦτον τὸν τρόπον καὶ ὁ πάντων αἰτίας ἐπιζητῶν ἄρδην ἀνατρέπει τὰ ὄντα πάντα καὶ τὴν τάξιν αὐτῶν τὴν ἀπὸ τινος ὀρισμένης ἀρχῆς προϊοῦσαν". τοιαῦτα μὲν ὁ Θεόφραστος ἐπιτιμᾷ τῷ Πλάτῳ περὶ τῆς ψυχογονίας οὐδὲ ἐπὶ τῶν φυσικῶν πάντων λέγων δεῖν ἡμᾶς ἐπιζητεῖν τὸ διὰ τί· γελοῖον γὰρ φησιν ἀπορεῖν, διὰ τί καίει τὸ πῦρ [καὶ διὰ τί πῦρ] καὶ διὰ τί ψύχει ἡ χιών.

• Ὁν ἀρχὴν ἀρχῆς ἐπιζητεῖ cf. Theophr. *Metaph.* 6b11.

14. Proclus, *In Platonis Tim.* 456.6-18 Diehl: "Ἡ γὰρ μόνος ἢ μάλιστα Πλάτων τῇ ἀπὸ τοῦ προνοούontos αἰτία κατεχρήσατο" φησὶν ὁ Θεόφραστος τοῦτο γὰρ καλῶς αὐτῷ μαρτυρῶν.

• Cf. Plut. 1006c [= no. 11]

15. Damascius, *In Platonis Phil.* 36c-44a (167-8, p. 81 Westerink)· Ὁ Θ. ἀντιλέγει τῷ Πλάτῳ περὶ τοῦ μὴ εἶναι ἀληθῆ καὶ ψευδῆ ἡδονὴν ἀλλὰ πάσας ἀληθεῖς. Εἰ γὰρ ἐστὶ τις, φησὶν, ἡδονὴ ψευδής, ἔσται τις ἡδονὴ οὐχ ἡδονή· ἢ μάλιστα μὲν οὐδὲν συμβῆσεται τοιοῦτον· ἢ καὶ γὰρ ἡ ψευδὴς δόξα οὐδὲν ἦτον δόξα· εἰ δὲ καὶ συμβαίη τι ἄτοπον τὴν ἐσχάτην ἡδονὴν δοκοῦσαν εἶναι μὴ εἶναι ἡδονήν· ἐπεὶ καὶ ὄντι· ἄλλως οὐκ ὄν ἀπλῶς [ἐπεὶ καὶ ὄν τι, ἀλλ' ὥς οὐκ ὄν ἀπλῶς κτλ.

16. Stobaeus, *Anthologium* 4.2.20: Παρ' ἐνίοις δεδικάσθαι κελεύουσι τῷ μὴ δεχομένῳ τὴν τιμὴν· πότερον δὲ ἕως ἂν κομίσῃται κύριον εἶναι τοῦ κτήματος; οὕτω γὰρ οἱ πολλοὶ νομοθετοῦσιν· ἢ ὥσπερ Χαρώνδας καὶ Πλάτων; οὗτοι γὰρ

παραχρήμα κελεύουσι δίδοναι καὶ λαμβάνειν· ἐὰν δέ τις πιστεύσῃ, μὴ εἶναι δίκην· αὐτὸν γὰρ αἴτιον εἶναι τῆς ἀδικίας.

- (ii) References to Empedocles: *HP / CP* 1.7.1; 1.12.5; 1.13.2; 1.21.5; 1.22.2/ *DS* 7-24/ Fr. 116.1 W./ *De pietate* 12.7/ *Phys.op.* 3, 23.
- (iii) References to Anaxagoras: *HP* 3.1.4/ *CP* 1.5.2., (6.5.3)/ *Phys.op.* 2, 3, 4, 19, 23/Frr. 41.1, 46.1, 47.1, 86c.1 W.
- (iv) References to Democritus: *CP* 1.8.32, 2.11.7, 6.1.1, 6.1.6, 6.6.1, 6.7.2, 6.17.11/ *De igne* 52.2/*DS* 49-58; 61-80/ Frr. 4.64, 52.1, 171.12 (On fish)/*Metaph.* 11b22/ *Phys.op.* 8.14, 8.26, 13.1
- (v) References to Diogenes Apoll.: *HP* 3.1.4./ *Phys.op.* 2.21, 2.27, 6a.1, 17.1, 23.9/ Frr. 39.1, 41.1, 42.1 W.
- (vi) References to Clidemus : *HP* 1.10.3, 3.1.4, 3.2.3/ *CP* 3.23.1-2, 5.9.10
- (vii) References to Parmenides: *DS* 3-4; Frr. 42.1, 43.1, 44.1 W./ *Phys.op.* 3, 5, 6, 7, 8, 17.
- (viii) References to Alcmeon *DS* 25-26.
- (ix) References to Heraclitus: *Metaph.* 7a15/ Fr. 8 W. (p. 403.4-5); *Phys.op.* 8.14, 8.26

APPENDIX D: ἀρχή/ἀρχαί IN THEOPHRASTUS

HP 1.2.1

CP 2.1.6 (dat.); 2.11.6 (nom.); 2.14.3 (r.4, 5/ cf. E.-L. ad loc.); 4.1.4 (dat. ll. 2-3); 4.3.6 (dat. ll. 10); 5.8.1 (nom.); 6.4.2; **6.6.10** (nom. l. 7); **6.11.2** (nom. ἀρχαί καὶ δυναμεις φυσικαί ... τεχνῆς καὶ συνεσέως)

De igne 6; 8. 2; [cf. Lloyd (1973) 10 /*De igne* 53.3 ff. hot and cold not principles (!)]

Metaphysics 5a19, 7a13 (dat.), 7b9. 12, 9b6; etc.

Piēt. 2.38; 20.14; 20.21/ Fr. 5.30, 3/ Fr. 5.37, 3/ Fr. 7.6, 12/ Fr. 13.1.1 (Clemens)/ Fr. 15.1.1 (Theophrastus' *Top. apud Simpl.*)/ **Fr. 18.1.11** (ἀρχαί πρότεροι ... ἀπὸ τῶν ἡμῶν γνωριμωτέρων)/ Fr. 89.11.10-11 et 12.1

DS : 33, 38, (47), 59, 71, 82 (twice), (85)

33 ἀλλὰ τοῦτο μὲν ἀπὸ μικρᾶς ἀρχῆς ἐφ' ὅλην μετήνεγκε τὴν αἴσθησιν.

38 Κλειδίημος ... οὐχ ὥσπερ Ἀναξαγόρας ἀρχὴν ποιεῖ πάντων τὸν νοῦν.

48 Διογένης μὲν οὖν, ὥσπερ εἵπομεν, ἅπαντα προθυμούμενος ἀνάγειν εἰς τὴν ἀρχὴν πολλὰ διαμαρτάνει τῶν εὐλόγων.

59 οἱ δὲ ἄλλοι τοσοῦτον μόνον, ὅτι τό τε λευκὸν καὶ τὸ μέλαν ἀρχαί, τὰ δ' ἄλλα μιγνυμένων γίνεται τούτων.

71 ἔτι δὲ τὸ θερμόν τε καὶ ψυχρόν, ἅπερ ἀρχὰς τιθέασιν, εἰκὸς ἔχειν τινὰ φύσιν, εἰ δὲ ταῦτα καὶ τὰ ἄλλα.

82 πλείστη γὰρ ἀπορία περὶ τῶν ἀρχῶν.

BIBLIOGRAPHY

This bibliography contains all the literature referred to in the notes (for single references the relevant footnote is given) and some additional items relevant to the topics discussed (Theophrastean studies, dialectic, rhetoric, doxography, Presocratics, fragments etc.). A separate listing of work on *De sensibus* (since 1552) is given in Appendix B.

Editions

- Amigues, S. *Théophraste. Recherches sur les Plantes* (Budé, Tome I, 1988; Tome II, 1989) 2n84
- Diels, H. 'THEΟΦΡΑΣΤΟΥ ΠΕΡΙ ΑΙΣΘΗΣΕΩΝ', *Doxographi graeci* (Berolini) 499-525
- FHSG = Fortenbaugh W.W./Huby P.M./Sharples R.W./Gutas D. (eds) *Theophrastus of Eresus. Sources for his Life, Writings, Thought and Influence* (2 volumes) Leiden, Brill 1992
- Philippson, L. (1831) *Hylé Anthrôpiné*. scripsit et edidit Ludovicus Philippson, Berolini (*Pars I*: De internarum humani corporis partium cognitione Aristotelis cum Platonis sententiis comparata. *Pars II*: Philosophorum veterum usque ad Theophrastum doctrina de sensu. *Theophrasti de sensu et sensibilibus fragmentum historico-philosophicum*. Aristotelis de sensibus doctrina. Theophrasti fragmenta de sensu, phantasia et intellectu e Prisciani Metaphrasi primum excerpta)
- Schneider (1818) I.G. Schneider, *Theophrastou Eresii ta soozomena*. Theophrasti Eresii quae supersunt opera et excerpta librorum quatuor tomis comprehensa. Ad fidem librorum editorum et scriptorum emendavit coniuncta opera D.H.F. Linkii excerpta solus explicare conatus est Io. Gottlob Schneider (1818-21)[cf. vol. 4, 516]
- Stratton, G. M. (1964 (1917)) *Theophrastus and the Greek Physiological Psychology before Aristotle* (Amsterdam)

Secondary literature

- Algra, K.A. (1995) *Concepts of Space in Greek Thought* (Leiden, Brill)
- Algra e.a. (1996) Algra, K.A. – P. van der Horst – D.T. Runia (eds) *Polyhistôr. Papers offered to J. Mansfeld on the occasion of his sixtieth birthday* (Leiden, Brill)
- Aubenque, P. (1961) 'Sur la notion aristotélicienne d'aporie', in Mansion (1961a) 3-19
- Ax, W. (1986) *Laut, Stimme und Sprache. Studien zu drei Grundbegriffen der antiken Sprachtheorie* (Göttingen) 59-76
- Baldes, R.W. (1972) *Aristotle's Relation to Democritus reconsidered and vindicated as against the Criticism of H. Cherniss* (Diss. Chicago)
- Baldes, R.W. (1975a) 'Democritus on Perception of Size and Distance', *Classical Bulletin* 51, 42-44
- Baldes, R.W. (1975b) 'Democritus on Visual Perception: Two Theories or One?' *Phronesis* 20, 93-105

- Balme, D. (1962) 'GENOS and EIDOS in Aristotle's biology', *ClQ* 12, 81-98
- Balme, D. (1987) 'Aristotle's use of Division and Differentiae', in Gotthelf, A./Lennox, J. G. (eds) *Philosophical Issues in Aristotle's Biology* (Cambridge) 69-89
- Baltussen, H. (1992) 'Peripatetic Dialectic in the *De sensibus*', in *RUSCH* V, 1-19
- Baltussen, H. (1993) [review of *Theophrastus, De Causis Plantarum*, Loeb vol. II-III Einarson-Link 1992], *Mnemosyne* 46, 107-109
- Baltussen, H. (1996) 'A "dialectical" argument in *De anima* A 2-4. On Aristotle's use of *topoi* in systematic contexts', in Algra e.a. (1996) 333-343
- Baltussen, H. (1998) 'The Purpose of Theophrastus' *De sensibus* Reconsidered', *Apeiron* 31 (2), 167-200
- Baltussen, H. (2000a) 'Plato in the *Placita* (Aëtius IV 8-23): A Dielsian Blind Spot', *Philologus* 144, Heft 2 (forthcoming).
- Baltussen, H. (2000b) 'Additional Fragments of Eudemus in Simplicius *In phys.*', Fortenbaugh W.W./Bodnár I. (eds) *Eudemus of Rhodes* (RUSCH vol. 11)
- Baltussen, H. (2001) 'Theophrastean Echoes? Some Remarks on the Early Transmission of Theophrastus' *De sensibus*', in G. Woehle/W.W. Fortenbaugh (eds) *Theophrastus' Opuscula*. Proc. of the International Theophrastus Conference, Trier July 1999 (Philosophie der Antike vol. *, Steiner-Verlag)
- Baltussen, H. (forthc.) 'Empedocles' Hearing Aid? A Note on DK 31B99'
- Baltussen, H. (forthc.) 'Philosophy or Philology? Simplicius' Method of Quoting'
- Barbotin, E. (1954) *La Théorie Aristotélicienne de l'Intellect d'après Théophraste* (Louvain/Paris)
- Barnes, J. (1970) 'Property in Aristotle's Topics', *AGPh* 52, 136-155
- Barnes, J. (1975) 'Aristotle's theory of demonstration', J. Barnes e.a. (eds) *Articles on Aristotle*, 1. Science (London, Duckworth 1975) 65-87 [revised version of: J. Barnes, *Phronesis* 14 (1969) 123-52]
- Barnes, J. (1979) J. Barnes, M. Schofield, R. Sorabji (eds) *Articles on Aristotle 4. Psychology and Aesthetics* (Duckworth, London)
- Barnes, J. (1980) 'Aristotle on the Method of Ethics', *RIPH* 34 (1980) 490-511
- Barnes, J. (1982) *The Presocratic Philosophers* (London)
- Barnes, J. (1987) *Early Greek Philosophy* (Penguin)
- Barnes, J. (1991) 'The Hellenistic Platos', *Apeiron* 24, 121 ff. 4n1
- Beare, John I. (1906) *Greek Theories of Elementary Cognition from Alcmeon to Aristotle* (Oxford; Repr. Dubuque 1993)
- Beriger, A. (1989) *Die aristotelische Dialektik*. Ihre Darstellung in der 'Topik' und den 'Sophistischen Wiederlegungen' und ihre Anwendung in 'Metaphysik' M 1-3. (Heidelberg [Diss. Zürich 1987])
- Berti, E. (1970) 'La Dialettica in Aristotele', in E. Berti (ed.) *L'Attualità della Problematica Aristotelica* (Padova) 33-80
- Berti, E. (1977) *Aristotele. Della dialettica a la filosofia prima* (Padua 1977) 173 ff
- Berti, E. (1978) 'Ancient Greek dialectic as an expression of freedom of thought and speech', *JHI* 39, 347-70
- Berti, E. (1980) 'Aristote et la méthode dialectique du Parménide de Platon', *RIPH* 34, 341-358
- Berti, E. (1981) (ed.) *Aristotle on Science: the Posterior Analytics*. Proceedings of the 8th Symposium Aristotelicum (Padova)
- Berti, E. (1986) 'Sul carattere "dialettico" della storiografia filosofica di Aristotle', in Cambiano (1986) 101-126
- Blank, David L. (1984) 'Dialectical Method in the Aristotelian *Athenaion Politeia*', *GRBS* 25, 275-84

- Blum, R. (1977) 'Kallimachos und die Literaturverzeichnung bei den Griechen: Untersuchungen zur Geschichte der Bio-bibliographie', *Archiv für Geschichte des Buchwesens* 18, 1-360
- Bochenski, I. M. (1947) *La Logique de Théophraste* (Fribourg)
- Bolton, R. (1978) 'Aristotle's definitions of the soul: De Anima II, 1-3', *Phronesis* 23, 258-278
- Brandis, Chr. A. (1831) 'Ueber die Reihenfolge der Bücher des Arist. Organon und ihre griechischen Ausleger nebst Beiträge zur Geschichte des Textes jener Bücher des Aristoteles und ihre Ausgaben', *Abhandlungen der Berliner Akademie der Wissenschaften zu Berlin*, Phil.-hist. Klasse (1831) 47-86
- Brandis, Chr. A. (1860) *Handbuch der Geschichte der Griechische-Römischen Philosophie* (Übersicht über das Aristotelische Lehrgebäude und Erörterung der Lehren seiner nächsten Nachfolger). Theophrast, III. 1
- Braun, E. (1959) *Zur Einheit der aristotelischen 'Topik'* (diss. Cologne)
- Braun, M., Calder III, W. M., Ehler, D., eds. (1995) *Philology and Philosophy. The Letters of Hermann Diels to Theodor and Heinrich Gomperz (1871-1922)* Hildesheim.
- Brisson, L. (1992) 'Diogène Laërce, Livre III', in *ANRW* II 36.5, 3619-3760
- Brisson, L. (1997) 'Perception sensible et raison dans le *Timée*', in Calvo-Brisson (eds) 307-16
- Brunschwig, J. (1967) *Les Topiques* I, livres 1-4 Coll. Budé (Paris)
- Burkert (1998) = Burkert W. c.a. (eds) *Fragmentsammlungen philosophischer Texte der Antike – Collezioni dei frammenti di filosofi antichi* (Aporemata 3, Vandenhoeck & Rupprecht)
- Burnet, J. (1975⁴) *Early Greek Philosophy* (London; ¹1892)
- Burnyeat, M. F. (1981) 'Aristotle on understanding knowledge', in Berti (1981) 97-139
- Burnyeat, M. F. (1982) 'The origins of non-deductive inference', in J. Brunshwig, M. Burnyeat, M. Schofield (eds) *Science and speculation. Studies in Hellenistic theory and practice* (Cambridge) 193 ff. 5n132
- Burnyeat, M. F. (1986) 'Good Repute', *London Review of Books* vol 8, nr. 19 (1986) 11-12 [Review of revised edition of the Oxford translation of The Complete Works of Aristotle by J. Barnes, Princeton Univ. Press 1985, 2 vols.]
- Burnyeat, M. F. (1994) 'Enthymeme: The Logic of Persuasion', D.J. Furley-A. Nehamas (eds) *Aristotle's Rhetoric. Philosophical Essays*. Proc. of the twelfth *Symposium Aristotelicum* (Princeton) 3-53
- Calvo T. – Brisson L. (1997) (eds) *Interpreting the Timaeus-Critias* (Proceedings of the IV Symposium Platonicum. Selected Papers) Academia Verlag, Sankt Anton
- Cambiano, G. (1986) (ed.) *Storiografia e dossografia della filosofia antica* (Torino)
- Capelle, W. (1910) 'Zur Geschichte der Griechischen Botanik', *Philologus* 69, 264-291
- Capelle, W. (1958) 'Farbenbezeichnungen bei Theophrast', *RhM* 101, 1-41
- Capelle, W. (1961) 'Menestor Redivivus', *RhM* 104, 47-69
- Cherniss, H. (1935) *Aristotle's Criticism of Presocratic Philosophy* (Baltimore)
- Cherniss, H. (1944) *Aristotle's Criticism of Plato and the Academy* (Baltimore)
- Cherniss, H. (1976) *Plutarch. De Stoicorum Repugnantibus* (Loeb) 4n116
- Cherniss, H. (1977) 'Ancient Forms of Philosophic Discourse', in L. Tarán (ed.) *Harold Cherniss, Selected Papers* (Leiden) 14-35
- Claghorn, G. S. (1954) *Aristotle's Criticism of Plato's Timaeus* (The Hague)
- Cleary, J. J. (1993) 'Working Through Puzzles with Aristotle', *Journal of Neoplatonic Studies* 1 (2), 83-179

- Cornford, F. M. (1956⁴) *Plato's Cosmology. The Timaeus of Plato*. Translated with a running commentary (London, ¹1937)
- Couloubaritsis, L. (1978) 'Dialectique et philosophie chez Aristote', *Philosophia* 8, 229-256
- Couloubaritsis, L. (1986) 'Dialectique, Rhétorique et Critique chez Aristote', in M. Meyer (ed.) *De la Métaphysique à la Rhétorique* (essais à la mémoire de Chaim Perelman...) Bruxelles, Univ. de Bruxelles, 103-118
- Coutant, V. (1971) *Theophrastus' De Igne* (Assen)
- Coutant, V.-V.L. Eichenlaub (1975) *Theophrastus' De Ventis* (Notre Dame)
- Croissant, J. (1951) 'La Dialectique chez Aristote', in *Études de philosophie ancienne* (Cahiers de Philosophie Ancienne, 4/Bruxelles 1986) 161-183 [appeared as a two-page summary in *RIPh* 1 (1952)]
- Daiber, H. (1992) 'The Meteorology of Theophrastus in Syriac and Arabic Translation', in *RUSCH* V, 166-293
- Danieli, M. (1984) *Das Problem der Traditionsaneignung bei Aristoteles am Beispiel des De an. A* (Königstein)
- Dengler, R.E. (1927) *Theophrastus, De causis plantarum, Book One*. Text, critical apparatus, translation and commentary (Philadelphia) 2n142
- Diels, H. (1879) *Doxographi Graeci* (Berolini)
- Diels, H. (1887) 'Leukipos und Diogenes von Apollonia' in *Rhein.Mus.* N.F.42, 1-14
- Diller, H. (1941) 'Die philosophiegeschichtliche Stellung des Diogenes von Apollonia', *Hermes* 76, 359-81 5n136
- Dillon, J. (1989) 'Tampering with the *Timaeus*: Ideological Emendations in Plato, with special reference to the *Timaeus*', *AJPh* 110, 54 ff. 4n3
- Dillon, J. (1993) *Alcinous. The Handbook of Platonism*. Translated with a Commentary (Oxford)
- Dillon, J. (1996 (1977)) *The Middle Platonists* [with a new Afterword] (Cornell)
- Donini, P.L. (1988) 'Il *Timeo*: unità del dialogo, verisimiglianza del discorso', *Elenchos* ix, 5-65, (esp. 37 ff.) 4n16
- Dorandi, T. (1991) 'Den Antiken Autoren über die Schulter geschaut: Arbeitsweise und Autographie bei den antiken Schriftstellern', *ŽPE* 87, 11-33 4n14
- Dubuisson, M. (1977) *OI AMPHI TINA—OI PERI TINA: l' évolution des sens et des emplois* (Diss. Liège) 5n35
- Duerlinger, J. (1969) 'ΣΥΛΛΟΓΙΣΜΟΣ and ΣΥΛΛΟΓΙΖΕΣΘΑΙ in Aristotle's *Organon*', *AJPh* 90, 320-328
- Düring, I. (1966) *Aristoteles. Darstellung und Interpretation seines Denkens* (Heidelberg) 2n31
- Düring, I. (1968a) 'Aristotle's Use of Examples in the Topics', in Owen (1968) 202-229
- Düring, I. (1968b) 'Topik', in *RE* suppl. 11, s.v. 'Aristoteles', cols. 208-215
- Düring, I. (1969) (ed.) *Naturphilosophie bei Aristoteles und Theophrast* (Proc. of the fourth *Symposium Aristotelicum* (Heidelberg))
- Ebbesen, S. 'Boethius as an Aristotelian Scholar', in J. Wiesner, *Aristoteles. Werk und Wirkung*. (zweiter Bd. "Kommentierung, Überlieferung, Nachleben", Berlin 1987), 286-311 2n96
- Ehler, D. (1992) *Hermann Diels, Hermann Usener, Eduard Zeller. Briefwechsel* (2 vols. Akademie Verlag, Berlin)
- Eichholz, E. (1965) *Theophrastus. De lapidibus* (Oxford)
- Eigler, U. and Wöhrle, G. (1993) *Theophrastus' De odoribus*. A new edition with introd., tr. & notes (Teubner)

- Einarson, B. and George K. K. Link (1976) *Theophrastus De Causis Plantarum* I-II (in three volumes) (Loeb Volume I)
- Einarson, B. and George K. K. Link (1990) *Theophrastus De Causis Plantarum* V-VI (Loeb vol. III, 1990)
- Ellis, J. (1988) 'The aporematic character of Theophrastus' *Metaphysics*', in *RUSCH* III: 216-223
- Elzinga, A. (1974) 'Some Remarks on a Theory of Research in the Work of Aristotle', *Zeitschrift für Allgemeine Wissenschaftstheorie* 5, 9-38 2n80
- Engberg-Pedersen, T. (1979) 'More on Aristotelian Epagoge', *Phronesis* 24 301-319
- Evangelizou, Chr. (1985) 'Aristotle's Doctrine of Predicables and Porphyry's *Isagoge*', *JHPH* 23, 15-34
- Evans, John D. G. (1975) 'The codification of false refutations in Aristotle's *De sophisticis elenchis*', *PCPS* n.s. 21, 42-52
- Evans, John D. G. (1977) *Aristotle's Concept of Dialectic*. (Cambridge)
- Everson, S. (1990) (ed.) *Epistemology* (Cambridge)
- Ferejohn, M.T. (1982) 'Definition and the two stages of Aristotelian demonstration', *RMeta* 36, 375-95
- Ferejohn, M.T. (1992) *The Origins of Aristotelian Science* (Michigan)
- Fiedler, W. (1978) *Analogiemodelle bei Aristoteles. Untersuchungen zu den Vergleichen zwischen den einzelnen Wissenschaften und Künsten* (Amsterdam) 4n56
- Finley, M.I. (1975) *The Use and Abuse of History* (Penguin)
- Finley, M.I. (1985) *Ancient History. Evidence and Models* (London)
- Flashar, H. (1962) *Aristoteles. Problemata Physika* (Berlin)
- Fortenbaugh, see *RUSCH* (*Rutgers Studies in Classics and the Humanities*)
- Fortenbaugh, W.W. (1984) *Quellen zur Ethik Theophrasts* (Amsterdam)
- Fortenbaugh, W.W. (1985) 'Theophrastus on Emotion', in *RUSCH* II, 209-229
- Fortenbaugh, W.W. (1998) 'Theophrastean Titles and Book Numbers: Some Reflections on Titles Relating to Rhetoric and Poetics' in Burkert (1998) 182-200
- Fragstein, A. von (1967) *Die Diairesis bei Aristoteles* (Amsterdam)
- Frappier, Georges (1977) 'L'art dialectique dans la philosophie d'Aristote', *Laval Théolog. et Philos.* 33, 115-134
- Frede, M. (1987) 'Categories in Aristotle', in M. Frede, *Essays in Ancient Philosophy* (Oxford/ New York) 29-48
- Frede, M. (1999) 'Aëtiana' (review of Mansfeld-Runia 1997) *Phronesis* 44 (2), 135-49
- Freudenthal, G. (1995) *Aristotle's Theory of Material Substance. Heat and Pneuma, Form and Soul* (Oxford)
- Fritz, K. von (1953) 'Democritus' theory of vision', in *Science, medicine and history* (Essays on the evolution of scientific thought and medical practice, written in the honour of Ch. Singer. Oxf. Univ. Pr.) 83-99
- Fritz, K. von (1964) *Die epagogé bei Aristoteles* (München)
- Fuhrmann, M. (1960) *Das systematische Lehrbuch. Ein Beitrag zur Geschichte der Wissenschaften* (Göttingen) 4n103
- Gaiser, K. *Theophrast in Assos. Zur Entwicklung der Naturwissenschaft zwischen Akademie und Peripatos* (Heidelberg, 1985) 2n90
- Galston, M. (1982) 'Aristotle's Dialectic, Refutation and Inquiry', *Dialogue* 21, 79-93
- Ganson, T.S. (2000) 'Democritus against Reducing Sensible Qualities', *Ancient Philosophy* 19-2, 201-215
- Geffcken, J. (1932) 'Zur Entstehung und zum Wesen des Griechischen Wissenschaftlichen Kommentars', *Hermes* 67, 397-412

- Gotthelf, A. (1985) (ed.) *Aristotle on Nature and Living Things*. Philosophical and Historical Studies presented to D. M. Balme (Bristol)
- Gottschalk, H. B. (1961) 'The Authorship of Meteorology IV', *ClQ* ns 11, 67-79
- Gottschalk, H. B. (1964) 'The *De coloribus* and its author', *Hermes* 92, 59-85
- Gottschalk, H. B. (1965) 'Strato of Lampsakos: Some texts, ed. with a commentary', *Proc. of the Leeds Phil. and Liter. Society, Lit. and Hist. Section* 11, 95-182
- Gottschalk, H. B. (1967) (review of Steinmetz 1964) *Gnomon* 39, 17-26
- Gottschalk, H. B. (1968) 'The *De audibilibus* and Peripatetic Acoustics', *Hermes* 96, 435-460
- Gottschalk, H. B. (1985) 'Prolegomena to an edition of Theophrastus' Fragments', in J. Wiesner (ed.) *Aristoteles. Werk und Wirkung*. (Bd. I, Berlin-New York) 543-556
- Grafton, A. (1990) *Forgers and Critics* (Princeton) 4n113
- Granger, H. (1984) 'Aristotle on Genus and Differentia', *JHPhil* 22, 1-24
- Grayeff, F. (1974) *Aristotle and His School* (London)
- Greenwood, L.H.G. (1909) *Aristotle. Nicomachean Ethics vi* (Cambridge, 1909; repr. New York 1973) 128-132
- Guérout, M. (1963) 'Logique, Argumentation, et Histoire de la Philosophie chez Aristote', in *La théorie de l'argumentation. Perspectives et application*. (Louvain-Paris s.d. [mars 1963]) 431-449
- Guthrie, W. K. C. (1965-1981) *A History of Greek Philosophy* (vols. I-VI)
- Hadgopoulos, D. (1976a) 'The Definition of the "Predicables" in Aristotle', *Phronesis* 21, 59-63
- Hadgopoulos, D. (1976b) 'Protasis and Problema in the Topics', *Phronesis* 21, 266-76
- Hadot, P. (1980) 'Philosophie, Dialectique et Rhétorique dans l'Antiquité', *Studia Philosophica* 39, 139-166
- Hadot, P. (1987) 'Théologie, Exégèse, Révélation, Écriture, dans la Philosophie Grecque', in M. Tardieu (ed.) *Les règles de l'interprétation* (Paris) 13-34
- Hahn, D. (1978) 'Early Hellenistic Theories of Vision and the Perception of Color', in P. K. Machamer/ R. G. Turnbull (eds) *Studies in Perception. Interrelations in the History of Philosophy and Science* (Columbus) 60-95
- Halper, E. (1988) 'The origin of the aporiai in Aristotle's *Met. B*', *Apeiron* 21, 1-27
- Hambruch, E. (1904) *Logische Regeln der Platonischen Schule in der aristotelischen Topik*. (Wiss. Beilage zum Jahresbericht des Askanischen Gymnasiums zu Berlin, Ostern; repr. New York 1976)
- Hamélin, O. (1920) *L'Opinion selon Aristote* (Paris)
- Hamélin, O. (1953) *La Théorie de l'Intellect d'après Aristote et ses commentateurs* (introd. par E. Barbotin) Paris, Vrin
- Hamlyn, D. W. (1961) *Sensation and Perception. A History of the Philosophy of Perception* (London/New York) [on Theophrastus, see pp. 5-30]
- Hamlyn, D. W. (1976) 'Aristotelian Epagoge', *Phronesis* 21, 167-184
- Hamlyn, D. W. (1986 (1968)) *Aristotle's De anima*. Translated with introd. and Notes (Cambridge)
- Hamlyn, D. W. (1990) 'Aristotle on Dialectic', (review of Irwin 1989) *Philosophy* 65, 465-476
- Heidel, W. A. (1906) 'Qualitative Change in Pre-Socratic Philosophy', *AGPh* 19, 333-379
- Hershbell, J. P. (1974) 'Empedoclean Influences in Plato's Timaeus', *Phoenix* 27, 145-166
- Hicks, R. D. (1965 (1907)) *Aristotle. De anima*. Translation, introduction and notes (Amsterdam)

- Hirsch, U. (1997) 'Sinnesqualitäten und ihre Namen (zu *Tim.* 61-69)', in Calvo-Brisson (eds) 317-24 4n29
- Huby, P. M. (1962) 'The Date of Aristotle's Topics and its Treatment of the Theory of Ideas', *ClQ* ns 12, 72-80
- Huby, P. M. (1979) 'A neglected fragment of Peripatetic logic', *LCM* iv, 207-210
- Huby, P. M. (1985a) 'Theophrastus in the Aristotelian Corpus, with particular reference to the Biological Problems', in Gotthelf (1985) 313-325
- Huby, P. M. (1985b) 'Medieval Evidence for Theophrastus' Discussion of the Intellect', *RUSCH* II, 165-182
- Huby, P. M. (1989) 'Theophrastus and the Criterion', P. Huby/ G. Neal (eds.) *The Criterion of Truth. Essays written in honour of G. Kerferd* (Liverpool) 107-122 3n59
- Huby, P. M. (1991) 'Stages in the Development of Language about Aristotle's *Nous*', in H. Blumenthal-H. Robinson (eds) *Aristotle and the Tradition* (OSAPh Suppl. vol.) 129-143
- Huby, P. M. (1999) *Theophrastus of Eresus: Sources for his Life, Writings, Thought and Influence*. Commentary Volume 4. Psychology (Texts 265-327)(Leiden, Brill)
- Huby, P. M. (forthc.) *Theophrastus of Eresus: Sources for his Life, Writings, Thought and Influence*. Commentary Vol. 2, on Logic (Leiden, Brill)
- Huby, P.-Steel, C. (1997) *Priscian on Theophrastus on the senses*, with 'Simplicius' on *Aristotle De anima* 2.5-12 (Duckworth, London)
- Huxley, G. (1973) 'Aristotle as an Antiquarian', *GRBS* 14, 271-286
- Indemans, J. H. H. A. (1953) *Studien over Theophrastus, vooral met betrekking tot zijn "bios theoretikos" en zijn zedeprenten* (diss. Nijmegen)
- Innes, D. C. (1985) 'Theophrastus and the Theory of Style', in *RUSCH* II, 251-267
- Irwin, T. (1981) 'Aristotle's Method in Ethics', in D. O'Meara (ed.) *Studies in Aristotle* (Washington D.C.) 193-223
- Irwin, T. (1988) *Aristotle's First Principles* (Oxford)
- Jaeger, W. (1923) *Aristoteles* (Berlin 1923; Engl. tr. Oxford ²1948)
- Jaeger, W. (1932) *Diokles von Karystos* (Berlin)
- Johansen, T.K. (1998) *Aristotle on the Sense-organs* (CUP) 3n16
- Jones, R.M. (1916) *The Platonism of Plutarch and Selected Papers* (1916¹; repr. and introduced by L. Tarán, New York & London: Carland Publ. 1980)
- Jouanna, J. (1965) 'Rapports entre Mélissos de Samos et Diogène d' Apollonie', *Revue des Etudes Anciennes* 67, 316-23 (esp. 320 f.) 5n149
- Kahn, Ch. (1960) *Anaximander and the Origins of Greek Cosmology* (New York; repr. 1994 Hackett Publ.)
- Kahn, Ch. (1966) 'Sensation and Consciousness in Aristotle's Psychology', *AGPh* 48, 43-81
- Kahn, Ch. (1981) 'The role of *nous* in the cognition of first principles in *Posterior Analytics* II 19', in Berti (1981) 385-414
- Kal, V. (1989) *On Intuition and Discursive Reasoning in Aristotle* (PhA 46, Leiden, Brill)
- Kapp, E. (1932) 'Syllogistik', *RE* (zweite Reihe) iv, A I, cols. 1046-1067
- Kapp, E. (1942) *Greek Foundations of Traditional Logic* (New York)
- Kern, O. (1927) *Hermann Diels und Carl Robert. Ein biographischer Versuch*. Jahresber. Fortschr. klass. Altertumswiss. Suppl. Bd. 215 (Leipzig)
- Kingsley, P. (1995) *Ancient Philosophy, Mystery and Magic: Empedocles and Pythagorean Tradition* (Oxford) 5n84
- Kirwan, C. (1979) 'Aristotle and the so-called fallacy of equivocation', *PhilosQ* 29, 35-46
- Kneale, W./ Kneale, M. (1986) *The Development of Logic* (Oxford; ¹1962)

- König, E. (1970) 'Aristoteles' erste Philosophie als universale Wissenschaft von den archai', *AGPh* 52, 225-246
- Krämer, H. J. (1968) 'Grundbegriffe Akademischer Dialektik in den biologischen Schriften von Aristoteles und Theophrast', *RhM* 111, 293-333
- Krämer, H. J. (1971) *Platonismus und Hellenistische Philosophie*. (Berlin, De Gruyter, 1971) [on the continuation of dialectic, pp. 1-75]
- Kraus, P.-Walzer, R. (1951) *Compendium Timaei Platonis aliorumque dialogorum synopsis quae exstant fragmenta* (London)
- Laks, A. (1983) *La dernière cosmologie présocratique. Diogène d'Apollonie* (Lille)
- Laks, A. (1988) 'Parménide dans Théophraste, De sensibus 3-4', *La Parole del Passato* 43, 262-80
- Laks, A. (1998a) 'Le début d'une physique: Ordre, extension et nature des fragments 142-144 A/B de Théophraste' in Van Ophuijsen-Raalte (1998) 143-169
- Laks, A. (1998b) 'Éditer l'influence? Remarques sur la section C du chapitre Diogène d'Apollonie dans les *Fragmente der Vorsokratiker* de Diels-Kranz' in Burkert (1998) 89-105
- Landor, B. (1985) 'Aristotle on Demonstrating Essence', *Apeiron* 19, 116-132
- Larrain, C.J. (1992) *Galens Kommentar zu Platons Timaios* (Stuttgart)
- Lautner, P. (1995) 'Theophrastus in Bessarion', *JHS* 115, 155-160
- Le Blond, J. M. (1938) *Eulogos et L'Argument de Convenance chez Aristote* (Paris)
- Le Blond, J. M. (1939) *Logique et Méthode chez Aristote. Étude sur la recherche des principes dans la physique aristotélicienne*. (Paris; repr. 1973)
- Le Blond, J. M. (1979) 'Aristotle on definition', in J. Barnes, M. Schofield, R. Sorabji (eds) *Articles on Aristotle, 3. Metaphysics* (Duckworth, London) 63-79
- Lee, E. N.-Mourelatos, A. P. D.-Rorty, R. M. (1973) (eds) *Exegesis and Argument. Studies in Greek philosophy presented to Gregory Vlastos* (Assen)
- Lee, H. D. P. (1935) 'Geometrical method and Aristotle's account of first principles', *CiQ* 29, 113-124
- Leshner, J. (1973) 'The meaning of NOUS in the Posterior Analytics', *Phronesis* 18, 44-68 6n62
- Lloyd, G. E. R. (1968) 'Plato as a Natural Scientist', *JHS* 88, 78-92
- Lloyd, G. E. R. (1971 (1966)) *Polarity and Analogy* (Cambridge) 5n132
- Lloyd, G. E. R. (1973) *Greek science before Aristotle*, (Cambridge)
- Lloyd, G. E. R. (1991) *Methods and Problems in Greek Science* (Cambridge)
- Löbl, R. (1987) *Demokrits Atome* (Darmstadt)
- Long, A.A. (1980) 'Stoa and sceptical Academy. Origins and growth of a tradition', *LCM* 5, 161-174
- Long, A.A. (1981) 'Aristotle and the early History of Greek Scepticism', in D. J. O'Meara (ed.) *Studies in Aristotle* (Washington D.C.) 79-106
- Long, A.A. (1996) 'Theophrastus' De sensibus on Plato', in Algra e.a. (1996) 345-362
- Madden, E. H. (1952) 'The enthymeme, crossroads of logic, rhetoric and metaphysics', *The Philos. Rev.* 61, 368-76
- Mansfeld, J. (1971) *The Pseudo-Hippocratic Tract ΠΕΡΙ 'ΕΒΔΟΜΑΔΩΝ CH. 1-11 and Greek Philosophy* (Assen)
- Mansfeld, J. (1985) 'Aristotle and Others on Thales, or the Beginnings of Natural Philosophy (with some remarks on Xenophanes)', *Mnemosyne* 38, 109-129. Repr. in Mansfeld (1990c) 126-146
- Mansfeld, J. (1986a) 'Aristotle, Plato, and the Pre-Platonic Doxography and Chronography' in Cambiano (1986) 1-59. Repr. in Mansfeld (1990c) 22-83
- Mansfeld, J. (1986b) *Die Vorsokratiker* (Reklam)

- Mansfeld, J. (1987) 'Theophrastus and the Xenophanes Doxography', *Mnemosyne* 40, 286 ff. Repr. in Mansfeld (1990c) 147-173
- Mansfeld, J. (1989) 'Gibt es Spuren von Theophrasts *Phys. Op.* bei Cicero?', in *RUSCH* IV, 133-158. Repr. in Mansfeld (1990c) 238-263
- Mansfeld, J. (1990a) 'Chrysippus and the Placita', *Phronesis* 34, 311-42
- Mansfeld, J. (1990b) 'Doxography and Dialectic. The *Sitz im Leben* of the "Placita"', *ANRW* II 36.4, 3056-3229
- Mansfeld, J. (1990c) *Studies in the Historiography of Greek Philosophy* (Assen)
- Mansfeld, J. (1992a) *Heresiography in Context. Hippolytus' Elenchus as a source for Greek philosophy* (Leiden, Brill)
- Mansfeld, J. (1992b) 'Physikai doxai and *Problēmata physika* from Aristotle to Aëtius (and Beyond)', in *RUSCH* V, 63-111
- Mansfeld, J. (1992c) 'A Theophrastean Excursus on Nature and God and its Aftermath in Hellenistic Thought', *Phronesis* 37, 314-335
- Mansfeld, J. (1992d) 'ΠΕΡΙ ΚΟΣΜΟΥ. A Note on the History of a Title', *VChr* 46, 399f. 4n14
- Mansfeld, J. (1993) 'Physikai doxai e *Problemata physica* da Aristotele ad Aezio (ed oltre)', in A. M. Battagazzore (ed.) *Dimostrazione, Argomentazione Dialettica e Argomentazione Retorica nel Pensiero Antico* (Atti del Convegno di filosofia, Bocca di Magra 18-22 marzo 1990) 311-382. [Italian version of Mansfeld (1990b) with added material]
- Mansfeld, J. (1994a) 'Epicurus Peripateticus', in A. Alberti (ed.) *Studi di Filosofia Antica. Realtà e Ragione* (Firenze) 29-47
- Mansfeld, J. (1994b) *Prolegomena. Questions to be Settled Before the Study of an Author, or a Text.* (Leiden, Brill)
- Mansfeld, J. (1996) 'Aristote et la Structure du De sensibus de Théophraste', *Phronesis* 41-2 (1996) 158-187
- Mansfeld, J. (1998) 'Doxographical Studies, Quellenforschung, Tabular Presentation and Other Varieties of Comparativism', in Burkert (1998) 16-40
- Mansfeld, J.-D.T. Runia (1997) *Aëtiana. The Method & Intellectual Context of a Doxographer*. Volume I: *The Sources* (Leiden, Brill)
- Mansion, A. (1961) 'L'origine du syllogisme et la théorie de la science chez Aristote', in S. Mansion (1961a) 57-81
- Mansion, S. (1961a) (ed.) *Aristote et les problèmes de la méthode* (Louvain/ Paris)
- Mansion, S. (1961b) 'Le rôle de l'exposée et de la critique des philosophies antérieures chez Aristote', in S. Mansion (1961a) 35-56
- McDiarmid, J.B. (1953) 'Theophrastus on the Presocratic Causes', *HSCP* 61, 85-156
- McDiarmid, J.B. (1958) 'Phantoms in Democritean Terminology: περιπάλαξις and περιπαλάσσεσθαι', *Hermes* 86, 291-298
- McDiarmid, J.B. (1959a) 'Plato in Theophrastus' De Sensibus', *Phronesis* 4, 59-70
- McDiarmid, J.B. (1959b) 'Theophr. De Sens. 66: Democritus' explanation of salinity', *AJPh* 80, 56-66
- McDiarmid, J.B. (1962) 'The Manuscripts of Theophrastus' De sensibus', *AGPh* 44, 1-32
- McKeon, R. (1947) 'Aristotle's Conception of the Development and the Nature of Scientific Method', *JHI* 8, 3-44
- McKirahan R.D. (1983) 'Aristotelian Epagoge in Prior Analytics 2.21 and Posterior Analytics 1.1', *JHPH* 21, 1-13
- Mejer, J. (1978) *Diogenes Laertius and his Hellenistic Background* (Wiesbaden, Steiner)
- Mohr, R. (1985) *The Platonic Cosmology* (Leiden, Brill)

- Morau, P. (1964) 'Quelques apories de la Politique et leur arrière-plan historique', *Entretiens Fondation Hardt. Tome xi: La Politique d' Aristote*, 125-148
- Morau, P. (1965) *Du ciel* (Ed. Budé, Paris 1965)
- Morau, P. (1968) 'La joute dialectique d' après le huitième livre des Topiques', in Owen (1968) 277-311
- Morrow, G. (1968) 'Plato's Theory of the Primary Bodies in the Timaeus and the Later Doctrine of Forms', *AGPh* 50, 12-28 4n22
- Morsink, J. (1982a) 'The Mandate of Topics I.2', *Apeiron* 16, 102-128
- Morsink, J. (1982b) *Aristotle on the Generation of Animals. A Philosophical Study* (Univ. Press of America)
- Most, G.W. (1994) 'The Uses of Endoxa: Philosophy and Rhetoric in the *Rhetoric*', in D.J. Furley/A. Nehamas (eds) *Aristotle's Rhetoric. Philosophical Essays*. (Proc. of the twelfth Symposium Aristotelicum (Princeton) 167-190
- Müller, C. W. (1965) *Gleiches zu Gleichem. Ein Prinzip frühgriechischen Denkens* (Wiesbaden)
- Nussbaum, M. C. (1986a) *The Fragility of Goodness* (Cambridge; several reprints) "Part III: Aristotle", 235ff.
- Nussbaum, M. C.-G. E. L. Owen (eds) (1986b) *Logic, Science and Dialectic. Collected Papers in Greek Philosophy* (Ithaca)
- O'Brien, D. (1968) 'The relation of Anaxagoras and Empedocles', *JHS* 58, 93-113 1n50
- O'Brien, D. (1969) *Empedocles' Cosmic Cycle* (Cambridge)
- O'Brien, D. (1981) *Theories of Weight in the Ancient World. I: Democritus* (PhA 37, Leiden, Brill)
- O'Brien, D. (1984) *Theories of Weight in the Ancient World. II: Plato, Weight and Sensation. The two theories of the Timaeus.* (PhA 49, Leiden, Brill)
- O'Brien, D. (1997) 'Perception et Intelligence dans le *Timée* de Platon', in Calvo-Brisson (eds) 291-305
- Oehler, K. (1961) 'Der Consensus omnium als Kriterium der Wahrheit in der antiken Philosophie und der Patristik', *Antike und Abendland* 101, 103-129
- Ong, W. J. (1988 (1982)) *Orality and Literacy* (London-New York) 3n7
- Opelt, I. (1962) 'Epitome', *RAC* 5, 944-973
- Owen G. E. L. (1961) 'Tithenai ta phainomena', in Mansion (1961a) 83-103. Reprinted in Nussbaum (1986b) 239-251
- Owen, G. E. L. (1968) (ed) *Aristotle on Dialectic. The Topics*. Proceedings of the Third Symposium Aristotelicum. Oxford, Clarendon Press
- Palmer, G.P. (1934) *The TOPOI of Aristotle's Rhetoric as exemplified in the Attic Orators* (Diss. Univ. of Chicago) 2n49
- Pater, W.A. (1965) *Les Topiques d' Aristote et la dialectique platonicienne. La méthodologie de la définition* (Fribourg)
- Pelletier, Y. (1985) 'Pour une définition claire et nette du lieu dialectique', *Laval Théol. Philos.* 41, 403-445
- Quandt, K. (1983a) 'Αἱ γὰρ τῶν ἐναντίων ἀποδείξεις ἀπορίαι περὶ τῶν ἐναντίων εἰσίν. Philosophical Program and Expository Practice in Aristotle', *CLAnt* 2, 279-298 2n58
- Quandt, K. (1983b) 'On the Programmatic Formula ΠΡΩΤΟΝ ΑΠΟ ΤΩΝ ΠΡΩΤΩΝ', *AJPh* 104, 358-371
- Raphael, S. (1974) 'Rhetoric, dialectic and syllogistic argument: Aristotle's position in Rhet. I-II', *Phronesis* 19, 153-67
- Regenbogen, O. (1930) 'Eine Forschungsmethode Antiker Naturwissenschaft',

- Quellen und Studien zur Geschichte der Mathematik I 2* (Berlin) 131-182. Repr. in O. Regenbogen. *Kleine Schriften* (München 1961) 141-194
- Regenbogen, O. *RE* (1940) suppl. 7, s.v. 'Theophrastus', cols. 1354-1562
- Repici, L. (1990) 'Limits of Teleology in Theophrastus' *Metaphysics*, *AGPh* 72, 182-213
- Riedel, M. (1981) 'Concerning several Aporiai in Aristotle's Practical Philosophy', *Ancient Philosophy* 1, 148-159
- Rist, J. M. (1966) 'Notes on Aristotle *De anima* 3.5', *ClPh* 61: 19-3n17
- Robinson, R. (1930) 'The historical background of Aristotle's Topics viii', in G. Ryle (ed.) *Proceedings of the seventh Internat. Congress of Philosophy*, 437-442 [Repr. Nendeln/ Liechtenstein, 1968]
- Rorty, R. (1984) 'The Historiography of Philosophy: four genres', in R. Rorty/ J.B. Schneewind/ Q. Skinner (eds) *Philosophy in History. Essays on the Historiography of Philosophy* (Cambridge) 49-75
- Rose, V. (1886) *Aristotelis qui ferebantur librorum fragmenta* (Lipsiae)
- Ross, W. D. (1955) *Aristotle. Parva Naturalia* (Oxford)
- Runia, D. T. (1981) 'Philo's *De aetern. mundi*: The Problem of its Interpretation', in *Vigiliae Christianae* 35, 116 ff. Repr. in D.T. Runia, *Exegesis and Philosophy. Studies in Philo of Alexandria* (1990) study VIII
- Runia, D. T. (1986) *Philo of Alexandria and the Timaeus of Plato* (Leiden, Brill)
- Runia, D. T. (1989a) 'Xenophanes on the Moon: A Doxographicum in Aëtius', *Phronesis* 34, 245-269
- Runia, D. T. (1989b) 'Plato, *Timaeus* 30B6-C1', *Elenchos* x: 435-443 4n16
- Runia, D. T. (1996) 'Atheists in Aëtius. Text, Translation and Comments on *De Placitis* 1.71-10', *Mnemosyne* XLIX-5: 542-76 7n15
- Runia, D. T. (1997) see Mansfeld-Runia (1997)
- RUSCH I (1983) = W. W. Fortenbaugh (ed.) *On Stoic and Peripatetic Ethics: The Work of Arius Didymus*
- RUSCH II (1985) = W. W. Fortenbaugh/ P.M. Huby/ A.A. Long (eds) *Theophrastus of Eresos. On his Life and Work* (vol. II) New Brunswick
- RUSCH III (1988) = W. W. Fortenbaugh (ed.) *Theophrastean Studies. On Natural Science, Physics and Metaphysics, Ethics, Religion, and Rhetoric* (New Brunswick-Oxford)
- RUSCH IV (1989) W.W. Fortenbaugh/ P. Steinmetz (eds) *Cicero's Knowledge of the Peripatos* (New Brunswick-London)
- RUSCH V (1992) W.W. Fortenbaugh/ D. Gutas (eds) *Theophrastus. His Psychological, Doxographical and Scientific Writings* (New Brunswick-London)
- RUSCH VI (1994) W.W. Fortenbaugh/D. Mirhady (eds), *Peripatetic Rhetoric after Aristotle* (New Brunswick-London)
- RUSCH VIII (1998) M. Van Raalte/ J.M. Van Ophuijsen (eds) *Theophrastus of Eresos. A Reappraisal of the Sources* (New Brunswick-London)
- RUSCH XI (2000) H. Baltussen, 'Additional Fragments of Eudemus in Simplicius *In phys.*', Fortenbaugh W.W./ Bodnár I. (eds) *Eudemus of Rhodes*
- Ryle, G. (1968) 'Dialectic in the Academy', in Owen (1968) 69-79
- Sandbach, F. H. (1985) *Aristotle and the Stoics* (Cambridge, Cambr. Philol. Soc., Suppl. vol. 10)
- Schian, R. (1973) *Untersuchungen über das 'argumentum e consensu omnium'* (Hildesheim-New York) esp. 91 ff.
- Schickert, K. (1977) *Die Form der Wiederlegung beim frühen Aristoteles* (München)
- Schmalzriedt, E. (1970) *Peri Physeôs. Zur Frühgeschichte der Buchtitel* (München)
- Schmitt, Charles B. (1971) 'Theophrastus', in P. Kristeller-F. Cranz (eds) *Catalogus Translationum et Commentariorum*, (vol. II, Washington D.C.) 239-322

- Schnayder, J. (1962) 'Technologisches in den Werken des Theophrast', *Eos* 52, 259-286
- Schofield, M. (1978) 'Aristotle on the imagination', in Lloyd/Owen 99-140 3n9
- Sedley, D. (1998) 'Theophrastus and Epicurean Physics', in *RUSCH* VIII (1998) 331-54
- Sharples, R. W. (1984) 'Some medieval and Renaissance citations of Theophrastus', *Journal of the Warburg and Courtauld Institutes* 47, 186-190. 5n165
- Sharples, R. W. (1985) 'Theophrastus on Tastes and Smells', in *RUSCH* II (1985) 41-64
- Sharples, R. W. (1988) 'Snow-blindness and underground fish-migration: two more notes on Theophrastus', *Journal of the Warburg and Courtauld Institutes* 51 (1988) 180-184 5n165
- Sharples, R. W. (1994) *Alexander of Aphrodisias. Quaestiones 2.16-3.15* (Ithaca, New York) 5n53
- Sharples, R. W. (1995) *Theophrastus of Eresus: Sources for his Life, Writings, Thought and Influence*. Commentary vol. 5, Sources on Biology (Leiden, Brill)
- Sharples, R. W. (1998) *Theophrastus of Eresus: Sources for his Life, Writings, Thought and Influence*. Commentary vol. 3.1, Sources on Physics (Leiden, Brill)
- Shiel, J. (1987) 'The Greek Copy of Porphyrios' Isagoge used by Boethius', in J. Wiesner, *Aristoteles. Werk und Wirkung*. (zweiter Bd. "Kommentierung, Überlieferung, Nachleben", Berlin 312-340 2n96
- Sichirrollo, L. (1966) *Dialegethai-Dialektik, von Homer bis Aristoteles* (Hildesheim)
- Sider, D. (1981) *The Fragments of Anaxagoras*. Ed.-Introd.-Comm. Meisenheim am Glan
- Skemp, J. B. (1969) 'The *Metaphysics* of Theophrastus in Relation to the Doctrine of κίνησις in Plato's later Dialogues', in Düring (1969) 217-223
- Skydsgaard, J. E. (1968) *Varro the Scholar. Studies in the first Book of Varro's De re rustica* (diss. Copenhagen)
- Smith, R. (1993) 'Aristotle on the Uses of Dialectic', *Synthese* 96, 335-58
- Smith, R. (1998) *Aristotle. Topics I and VIII* (Oxford)
- Sollenberger, M. G. (1983) *Diogenes Laertius Book 5* (diss. New Brunswick)
- Sollenberger, M. G. (1985) 'Diogenes Laertius 5.36-57: The *Vita Theophrasti*', in *RUSCH* II, 1-62
- Solmsen, F. (1950) 'Tissues and the Soul', *Philos. Rev.* 59, 435-468.
- Solmsen, F. (1955) 'Antecedents of Aristotle's Psychology and the Scale of Beings', *AJPh* 76, 148-164
- Solmsen, F. (1956) 'On Plato's Account of Respiration', *Studi Italiani di Filologia Classica* (SIFC) 27/28, 544-548
- Solmsen, F. (1960) *Aristotle's System of the Physical World* (Ithaca/New York) 2n152
- Solmsen, F. (1968) 'Dialectic without the Forms', in Owen (1968) 49-68
- Solmsen, F. (1968a) 'αἰσθησις in Aristotelian and Epicurean Thought', in F. Solmsen. *Kleine Schriften* I (Hildesheim) 612-633
- Solmsen, F. (1968b) 'Dialectic without the Forms', in Owen (1968) 49-68
- Sorabji, R. (1979) 'Aristotle on Demarcating the Five Senses', in Barnes (1979) 42-64 3n
- Stahl, W.H. (1964) (review of Fuhrmann 1960) in *Latomus* 23, 311-321 4n103
- Steel, C. G. (1978) *The Changing Self. Study on the Soul in Later Neoplatonism: Iamblichus, Damascius and Priscianus* (Brussel)
- Steel, C.G. (1997) see Huby (1997)
- Steinmetz, P. (1964a) *Die Physik des Theophrastos von Eresos* (Bad Homburg)

- Steinmetz, P. (1964b) see Wagner (1964)
- Steinmetz, P. (1969) 'Ansatzpunkte der Elementenlehre Theophrasts im Werke des Aristoteles', in Düring (1969) 224-249
- Stevenson, J.G. (1974) 'Aristotle as Historian of Philosophy', *JHS* 94, 138-143
- Stigen, A. (1961) 'On the alleged primacy of sight – with some remarks on *theoria* and *praxis* – in Aristotle', *Symbolae Osloenses* 37, 15-44
- Stratton, G. M. (1964 (1917)) *Theophrastus and the Greek Physiological Psychology before Aristotle* (Amsterdam)
- Striker, G. (1979) 'Aristoteles über Syllogismen aufgrund einer Hypothese', *Hermes* 107, 33-50
- Strömberg, R. (1937) *Theophrastea. Studien zur botanischen Begriffsbildung* (Göteborg)
- Struyker, E. de (1968) 'Concepts-clés et terminologie dans les livres ii-vii des *Topiques*', in Owen (1968) 141-163
- Stump, E. (1974) 'Boethius's Works on the Topics', *Vivarium* 12, 77-93
- Stump, E. (1978) *Dialectic and Aristotle's Topics in Boethius' De topicis differentiis* (Ithaca/London)
- Taylor, A. E. (1917) Taylor's comments *apud* Stratton (1917) notes
- Taylor, A. E. (1962 (1928)) *A Commentary on Plato's Timaeus* (Oxford)
- Taylor, C. C. W. (1990) 'Aristotle's Epistemology', in Everson (1990) 116-142
- Thompson, G. R. (1941) *Theophrastus on Plant Flavors and Odors: Studies on the Philosophical and Scientific significance of 'De causis plantarum' VI* (transl./ nn, Diss. Princeton)
- Throm, H. (1932) *Die Thesis. Ein Beitrag zu ihrer Entstehung und Geschichte* (Paderborn)
- Todd, R. B. (1996) *Themistius. On Aristotle's On the Soul*. Introd. transl. notes (Cornell, New York)
- Tracy, T. J. (1969) *Physiological Theory and the Doctrine of the Mean in Plato and Aristotle* (The Hague/ Paris)
- Upton, Thomas V. (1983) 'Aristotle on Hypothesizing The Genus And Scientific Explanation', *Nature and System* 5, 161-168
- Upton, Thomas V. (1984) 'The Role of Dialectic and Objections in Aristotelian Science', *Southern Journ. of Philos.* 22, 241-256
- Upton, Thomas V. (1985) 'Aristotle on hypothesis and the unhypothesized first principle', *RMeta* 39, 283-301
- Usener, H. (1858) *Analecta Theophrastea* (Diss. Bonn). Repr. in K. Fuhr (ed.) *Kleine Schriften I: Arbeiten zur Griechischen Philosophie und Rhetorik* (Berlin 1912; repr. Osnabrück 1965) 50-87
- Vallance, J. (1988) 'Theophrastus and the Study of the Intractable: Scientific Method in *De lapidibus* and *De igne*', in *RUSCH* III, 25-40
- Van Ophuijsen, J.M. (1994) 'Where have the *Topics* gone?' In *RUSCH* VI, 131-73
- Van Ophuijsen-Van Raalte (1998) see *RUSCH* VIII
- Van Raalte, M. (1993) *Theophrastus. Metaphysics*. Introduction, Translation and Commentary (Brill, Leiden)
- Verbeke, G. (1961) 'Philosophie et conceptions préphilosophiques chez Aristote', *RPhL* 59, 405-430
- Verdenius, W. J. (1947) 'Notes on the Presocratics', *Mnemos.* iii.13, 271-89 (Inceptive δέ at 274f.) 7n14
- Verdenius, W. J. (1960) 'Traditional and Personal Elements in Aristotle's Religion', *Phronesis* 5, 1-11
- Verdenius, W. J. (1963) 'Respect for, and Criticism of, Current Views in Greek Thought', *Maia* 15, 120-26
- Verdenius, W. J. (1974) 'Inceptive δέ Again', *Mnemos.* iv.27, 173-4 7n14

- Vlastos, G. (1967) 'Plato's Supposed Theory of Irregular Atomic Figures', *Isis* 57 (1967), 204-209. Repr. in: G. Vlastos, *Platonic Studies* (Princeton Un. Pr., 1973), 366-373
- Vlastos, G. (1975) *Plato's Universe* (Oxford)
- Wagner, E. (1964) —/ P. Steinmetz, *Der Syrische Auszug der Meteorologie des Theophrast* (Wiesbaden)
- Wallies, M. (1891) *Die Griechischen Ausleger der Aristotelischen Topik* (Wiss. Beilage zum Programm des Sophien-Gymnasiums zu Berlin, nr. 65) Berlin
- Wardy, R. (1991) 'Transcendental Dialectic', *Phronesis* 26, 86-106 [Review of Irwin 1988]
- Waszink, J. H. (1975 (1962)) *Timaeus a Calcidio translatus commentarioque instructus* (London)
- Wehrli, F. (1983) 'Theophrastus', in H. Flashar (ed.) *Die Philosophie der Antike—Band 3: Ältere Akademie, Aristoteles-Peripatos* (Basel/ Stuttgart) 474-522.
- Weil, E. (1951) 'La place de la logique dans la pensée aristotélicienne', *RMM* 56, 283-315 [= 'The Place of Logic in Aristotle's Thought', in J. Barnes e.a. (eds) *Articles on Aristotle, I. Science* (London, Duckworth 1975) 88-112]
- Weische, A. (1961) *Cicero und die neue Akademie. Untersuchungen zur Entstehung und Geschichte des antiken Skeptizismus* (Münster) 2n103
- Whittaker, J. (1973) 'Textual Comments on *Timaeus* 27 c-d', *Phoenix* 27, 387-391
- Whittaker, J. (1987) 'Platonic Philosophy in the Early Centuries of the Empire', *ANRW* II 36.1, 81-123
- Whittaker, J. (1989) 'The Value Of Indirect Tradition in the Establishment of Greek Philosophical Texts or the Art of Misquotation', in J. N. Grant (ed.) *Editing Greek and Latin Texts* (New York) 63-95
- Whittaker, J.—P. Louis (1990) *Alcinoos. Enseignement des doctrines de Platon*. text with comm. and transl. Coll. Budé (Paris)
- Wieland, W. (1958) 'Aristoteles als Rhetoriker und die esoterischen Schriften', *Hermes* 86, 323-346
- Wieland, W. (1960) 'Das Problem der Prinzipienforschung und die aristotelische Physik', *Kant Studien* 52, 206-219
- Wieland, W. (1962) *Die aristotelische Physik. Untersuchungen über die Grundlegung der Naturwissenschaft und die sprachlichen Bedingungen der Prinzipienforschung bei Aristoteles* (Göttingen)
- Wiesner, J. (1989) 'Theophrast und der Beginn des Archereferats von Simplicius' Physikkommentar', *Hermes* 117, 288-303
- Wilpert, P. (1956) 'Aristoteles und die Dialektik', *Kant Studien* 48, 247-257
- Wilpert, P. (1959) 'Die Philosophische Kritik im Altertum und Mittelalter', *Studium Generale* 12, 471-485
- Witte, B. (1964) 'Der ΕΙΚΩΣ ΛΟΓΟΣ in Platos *Timaeus*', *AGPh* 46, 1-16 4n16
- Wöhrle, G. (1985) *Theophrasts Methode in seinen botanischen Schriften* (Amsterdam)
- Wöhrle, G. (1993) see Eigler – Wöhrle (1993)
- Zeller (41921) E. Zeller, *Die Philosophie der Griechen in ihrer geschichtlichen Entwicklung* II 2 Aristoteles und die Alten Peripatetiker (Leipzig; repr. Hildesheim 1963) 806-869 (Theophrastos)
- Ziegler, K. (1950) 'Plagiat', *RE* XX.2, cols. 1957-1997

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